DUN'S REVIEW
and Modern Industry

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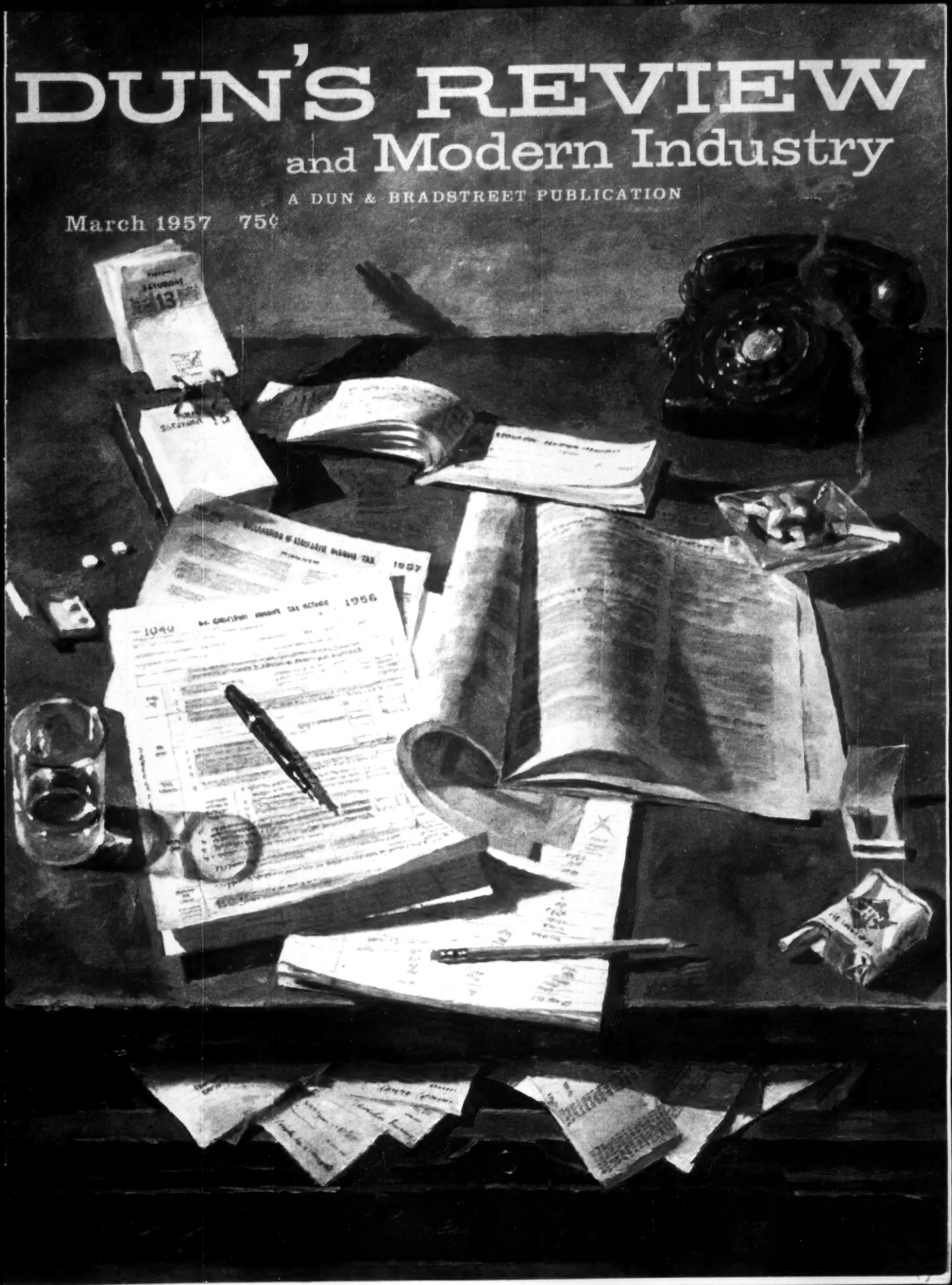

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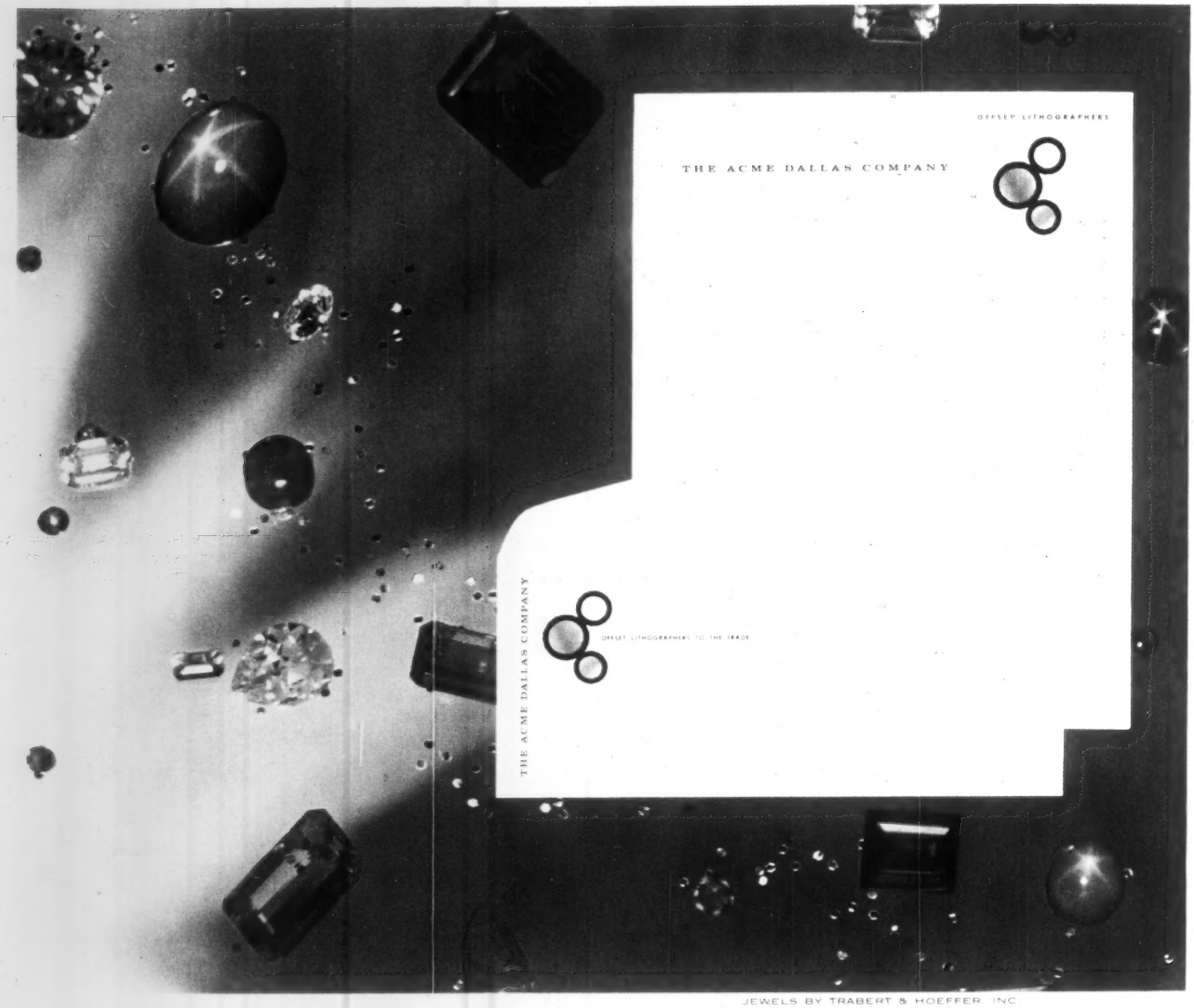

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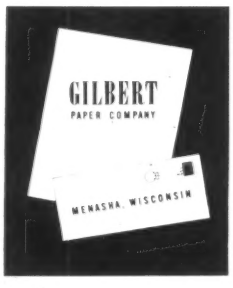

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THE COVER

The annual struggle to render unto Caesar leaves familiar marks on the desks of men who find their energy as well as their income has been taxed. This painting was executed especially for the magazine by Nicholas Solovioff.

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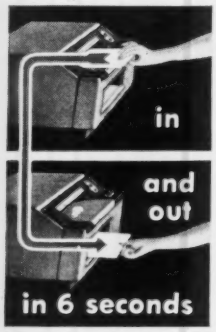

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the REVIEWING STAND

● Some prophets are occasionally right for the wrong reason. In 1839, when the nation was preparing for the sixth decennial census, Messrs. Langtree and O'Sullivan, editors of the *Democratic Review*, offered a population projection based on the previous five counts in 1790, 1800, 1810, 1820, and 1830. Here are their guesses for the century ahead compared with the actual, in thousands:

Year	*Projected*	*Actual*
1850	22,000	23,192
1860	28,000	31,443
1870	37,000	38,558
1880	48,000	50,156
1890	62,000	62,947
1900	81,000	75,494
1910	105,000	91,972
1920	137,000	105,710
1930	178,000	122,175
1940	231,000	131,669

The mathematical formula of a 30 per cent gain every ten years worked out pretty well for a while; but, as the editors were aware, such a ratio could not be maintained indefinitely. Tremendous immigration made the actual figure larger than the estimate in 1880; and although the 1890 guess was right on the nose, the formula had picked up too much momentum by 1910.

But the recent announcement that our population has passed the 170 million mark indicates that the prophets of 1940, as well as those of a century ago, were dealing with an empiric and unstable equation.

● The persistent and powerful influence of the income tax law on business policy and management decisions is carefully presented by William J. Casey, the noted tax analyst, in this issue. Here we observe the degree to which tax throws its weight on the scale and puts management thinking off balance. Tax is beginning to influence our social philosophy and to discourage the normal incentive to produce or serve. Practical management, alert to the complexities of tax regulations, will profit by a study of Mr. Casey's suggestions.

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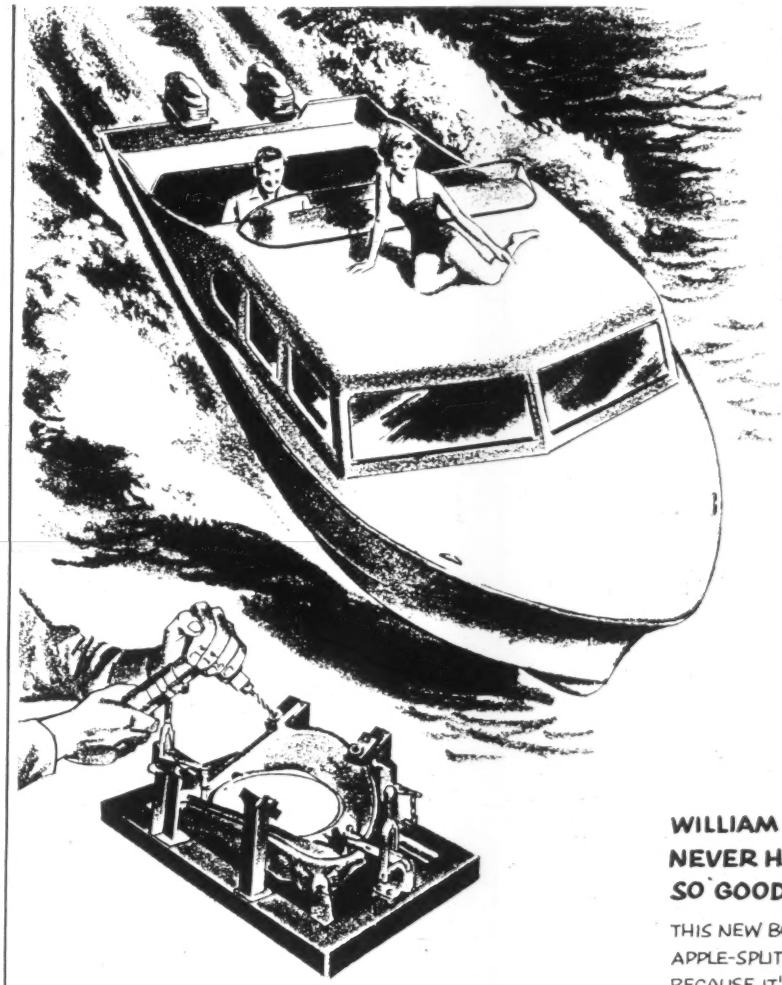
New Miracles with Glass Fibers!



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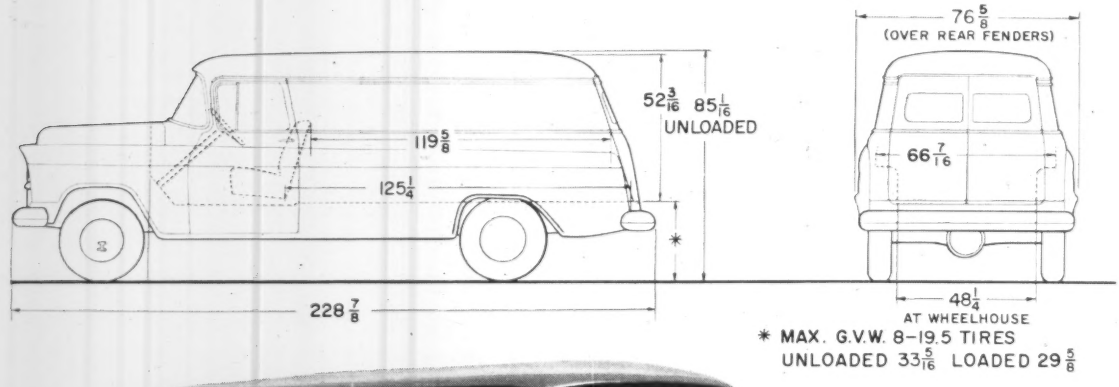

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CHEVROLET

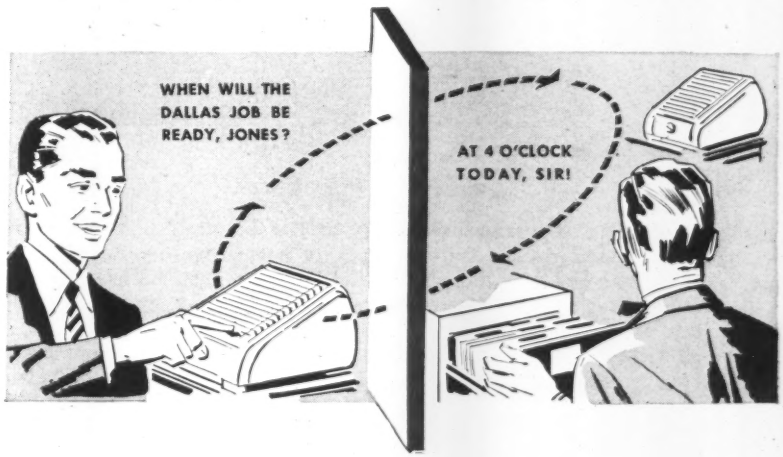
• Paul Wooton tells us there is talk of a single "department of transportation" in Washington. There are complaints of too much crisscrossing of regulations from various authorities. Which reminds us that the June DR&MI will develop a wide range of ideas on cost problems in transportation. The efficient movement of raw materials, semiprocessed goods, and finished wares is more than a problem of bills of lading, tariffs, and demurrage. The modern traffic manager is concerned with inventory flow and the cost of stockpiling and financing raw materials. Timing is significant to him. Having the right items on hand at the right time as they move into plant or away from the shipping dock may be the difference between profit and loss. Our writers will consider all avenues: airway, waterway, highway and railway.

• Considerable publicity has been given the cultural hobbies of business men. Many have won prizes as artists in oils, water color, and etchings. In this issue, Walter Grueninger presents the business man as a string musician. Not all foursomes, it seems, are golfers or bridge players. There is a musical underground for commercial travelers, ranging from presidents to office messengers, who know where to go and whom to call when they feel the urge to play Haydn or Beethoven in an agreeable quartet.

• Americans are often critical of their own government and institutions, and we get plenty of criticism, deserved and otherwise, from friends and foes overseas. But in November of last year when most British papers were tying Uncle Sam's coat tails into knots, an editor of the *Times* of London wrote in a series of articles:

"The United States of America, working out its dream, blunders beneficently on. Of all nations, its history has a higher proportion of greatness than of baseness; of all peoples its motives are the least suspect. Its errors have been, and are, many. Its instincts have been, and are, magnificently right. We see the small debits from day to day. Let us look rather at the huge credit through the years. Amidst all the dangers that beset us we can be thankful that it is to this dynamic, humorous, impatient, impulsive, generous people there has passed the leadership of the world."—A.M.S.

How to get more working minutes per hour!



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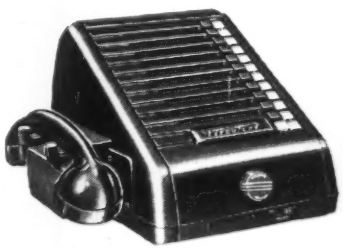

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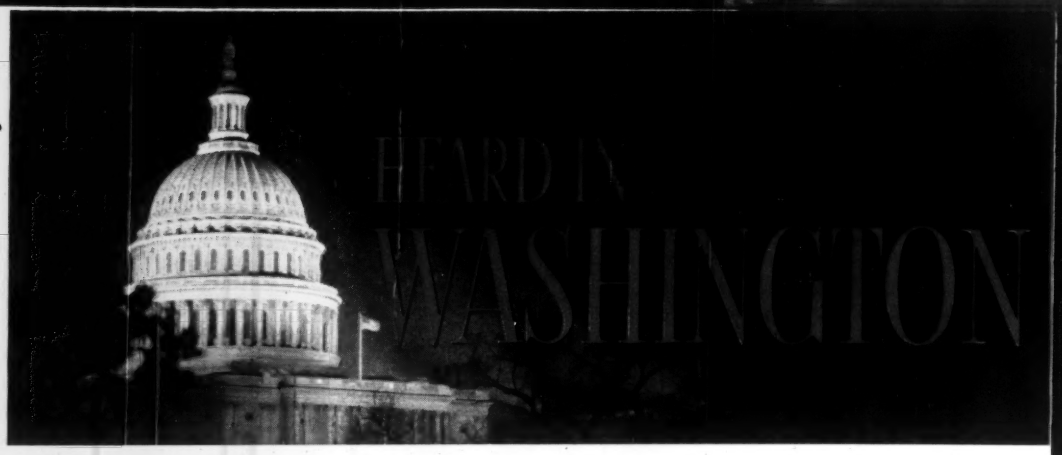

HEARD IN WASHINGTON

EVENTS SO FAR this year indicate that inflationary pressures are continuing. Indebtedness has been increasing in nearly all sectors of the economy. A state of lowered liquidity on the part of banks and corporations is very evident. State and local governments are borrowing heavily. Though corporations are tending to be uncertain how much additional capacity they will need, their expenditures are continuing at a high level. Raising of permissible rates on insured and guaranteed mortgages is increasing pressure on available supplies of credit and capital.

Further growth in the output of goods will be moderate because of capital limitations. Some shifts in demand in 1957 are foreseen. The quest for capital will not be as insistent as in 1956. Capital investment also will level off abroad. Narrowing profit margins are slowing down the rate of investment. Consumer demand will be influenced by resistance to higher prices and the desire to reduce debts already contracted.

Defense spending will not be confined to the next fiscal year. It may be spread out over two or more years. Thus the impact on the economy of the proposed $71.8 billion will not be much greater than that of the current $68.9 billion. Stimulation to the economy from private spending during the fiscal year to end June 30, 1958, according to most estimates, will be less than in the fiscal year ending June 30, 1957. Such a situation, in the opinion of well informed Washington observers, is far from discouraging. In fact, they are relieved because they feared a build-up to the bursting point. Cutting back of some investment programs will ease somewhat the pressures on materials and manpower. Demand, however, is not expected to slacken to a point that would affect prices. Increases in wages, railroad rates, and other factors will continue to exert pressure on prices. In some areas officials expect to see a squeeze on profits because of the growing intensity of competition. The Federal Reserve is expected to maintain high discount rates until prices begin to level off. Despite some decline, plant and equipment expenditures will continue at a high rate, returns to the Commerce Department show. Spending by state and local governments after some delays is gathering momentum, and this may have more effect from now on.

Committees of Congress seem never to tire of hearing William McChesney Martin's story. He has been summoned to testify frequently. Each time he testifies he uses different language, but the purport is the same. "Expansion of bank credit and money supply," he says, "will not produce more goods. It would increase prices further. Unless relative stability of the currency continues, high use of resources will be jeopardized. When demand exceeds supply, higher interest rates discourage borrowing and encourage saving. This tends to balance supply and demand . . . half of the 1956 increase in the gross national product represented price mark ups . . . investment must be financed out of current income . . . increases of 4.5 per cent in wholesale prices and 3 per cent in the cost of living indicate the vigor of demand . . . some demands must temporarily go unsatisfied."

President Eisenhower's off-the-cuff press conference remarks in January are being welded into the theme of supporters of the "new" Republican party. He listed the cardinal principles which he thinks should take precedence. To make sure national progress continues, it is necessary, he said, to have fiscal honesty—no deficit spending except in a real emergency. He emphasized decentralization of government with authority at local levels where it is best exercised. His third major point was sound money.

While a policy of freer foreign trade is making headway, any legislative step in that direction meets stubborn opposition. Those who would liberalize tariffs feel that a dangerous precedent has been set in the agreement under which Japan limits its exports of certain textiles to this country. The Administration was influenced to take action before the election by those who claimed that New England would go Democratic if the restrictions were not arranged. A ceiling doubtless would have been put on oil imports had it not been for the closing of the Suez canal. As soon as the oil shortage is relieved, it is certain that the question will be be raised again. In all probability, strong efforts will be made to extend such procedures to other items where foreign competition is felt. It will be difficult to persuade the President to support such a trend, but the political strength that some interests can muster make it doubtful that the Chief Executive can have his way. Some of those who are most assiduous in making sure that the domestic economy enjoys the bene-

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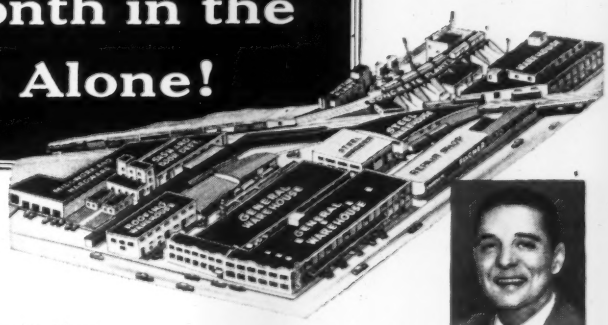

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fits of competition do not feel that any good comes from competition abroad. Henry Ford II has joined the active ranks of those urging "realistic and long-term programs of foreign trade."

There is a feeling in Washington that Col. Nasser will not last long. He has cost his country and the Arabs generally a pretty penny. The world is learning that the Suez Canal is not as important as was thought. The Maritime Commission is convinced that oil in the larger tankers can be brought around Cape Horn as cheaply as through the canal. Canal tolls probably will be increased, and ships using the Suez route face new arbitrary requirements and regulations. India, Iran, Iraq, Saudi Arabia, and other countries are becoming increasingly unhappy about the way in which the canal is being administered. Prospecting for oil has been spurred by canal uncertainties. Encouraging reports on oil possibilities are coming from the northern Sahara with its direct outlet to the Mediterranean. Consumers of Middle East oil are determined to get into a better bargaining position with regard to use of the canal.

More opposition to small business legislation than was expected is in evidence. The opinion is expressed in some quarters that the Small Business Administration might easily become a gigantic lending agency of the magnitude of the erstwhile Reconstruction Finance Corporation. Many services of the Department of Commerce would be usurped, some fear. The opinion has been advanced that the next step will be to extend SBA coverage to medium-sized concerns. Such dangers are seen as resulting from a tax structure that absorbs private capital, which Government must then advance. Pending small business legislative proposals would simply create a farm program in a business suit, said one observer.

In this single fiscal year agricultural surpluses worth close to $4 billion have been usefully disposed of. Secretary Benson told a surprised

Congressional committee. Disposal is at nearly eight times the rate attained in 1953. Inventories of cotton, wheat, and corn are large, but when prudent carryover is deducted, even those surpluses are the cause of less concern.

Nothing of major importance in the way of agricultural legislation is expected at this session of Congress. Senator Allen J. Ellender, chairman of the committee on agriculture, says there already is too much government in agriculture. "Let Benson see what he can do with his program," says Ellender.

With the nation spreading out, attention is being focused on transportation problems. Regulation of railroads and trucks is vested in one agency. Air transport is in another. Shipping is in still another. The St. Lawrence Seaway poses other problems, as do conflicting views regarding entry of foreign air lines into our travel markets. There are demands that coastwise shipping be rejuvenated even if privileges are granted foreign flag vessels. Some think a separate department of transportation would be one answer.

If the present pattern of consumption continues, shortage of high quality scrap iron will become acute by 1960. This is indicated by a Commerce Department study now under way. An immediate shortage would develop should another emergency like Korea arise. The report will say that the steel industry eventually will have to devise ways of using lighter scrap, or expand blast furnace capacity. Manufacture of light metal products is expanding more rapidly than the making of heavy products. Depreciation policies and the high cost of new machinery encourage retention of old heavy equipment from which the best melting grade of scrap largely comes. Sixty per cent of that type of scrap is now being exported.

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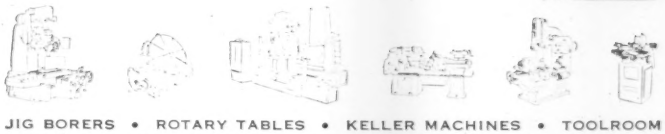
Pratt & Whitney Company, Incorporated,
42 Charter Oak Blvd., West Hartford, Conn.



JIG BORERS • ROTARY TABLES • KELLER MACHINES • TOOLROOM LATHES • VERTICAL SHAPERS • CUTTER AND RADIUS GRINDERS

PRATT & WHITNEY
FIRST CHOICE FOR ACCURACY
MACHINE TOOLS • GAGES • CUTTING TOOLS

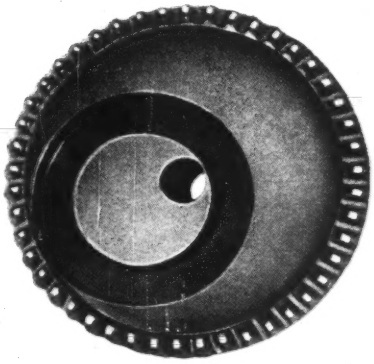
MUELLER BRASS CO. 600 SERIES BRONZE

the main working part in the smooth and OCEAN CITY SPINNING REELS

600 Series gears prove ideal in heavy duty salt water models 300, R300, and 320 in which corrosion resistance and high strength are important.

Other typical "600" applications

FORGED GEAR powerful



The Montague-Ocean City Rod & Reel Co. of Philadelphia is proud of the fact that many fishermen are calling their famous Ocean City "300" series spinning reels "the most dependable spinning reels in America." Such praise justifies the very best components in a product—like the corrosion-resistant Mueller Brass Co. "600" alloy gear. Provides its own shaft and has an integral clutch which takes the driving force from the handle, and incorporates a cam which provides the oscillating motion of the spool for cross-winding the line. Bronze was chosen because of the need for maximum strength, long wear, and because it is such an excellent bearing material. This application dramatically points up the valuable properties of Mueller "600" series alloys.

There are countless applications of Mueller "600" series bearing alloys. Find out how you can utilize one or more of them in YOUR products. Because forgings can be made closer to the finish size in "600" series alloys than can sand castings, there is less waste, greater speed in finishing.

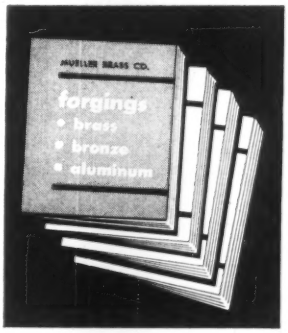
● WRITE TODAY FOR THE ENGINEERING MANUAL YOU NEED

Mueller Brass Co. Forgings
Engineering Manual H-58565 ☐

Tuf Stuf Aluminum Bronze Alloys
Engineering Manual H-58563 ☐

600 Series Bearing Alloys
Engineering Manual FM-3000 ☐

Copper Base Alloys in Rod Form
Engineering Manual FM-3010 ☐



METALS AND ALLOY REVIEW

by FRANK M. LEVY

Vice-President and Director of Research

Recently Ray Engelgau, who heads our statistical quality control procedures, and Amos Armitage from our machining department met in my office and we had a very interesting discussion on our new "S-C" rod. The term "S-C" is derived from the fact that it is produced from billets that are cast semi-continuously. In addition, we use the letters "S-C" to indicate its "super cutting" qualities which is one of the outstanding characteristics of this rod. We have definitely proved these qualities in some very exhaustive tests, one of which I'd like to tell you about here.

Experience has shown that it is difficult to control dimensions within close tolerances on machine parts involving internal forming operations. Amos had run into exactly that trouble with a certain hydraulic fitting made from rod that required a fairly close dimensional tolerance on the internal formed diameter. So, we decided to make a comparison test by machining the part from rod made by the conventional method and from rod produced by the S-C process. When rod made by the conventional method was machined, the parts could not be held within the specified tolerance range. The same machine, the same tooling and the same machine operator were used in this test, and when S-C process rod was substituted, the machine parts were well within the required tolerance range.

In addition, I just received a letter from a well-known equipment manufacturer who has been running tests on S-C rod. They reported that the incidence of tool trouble per 1000 forgings machined from S-C rod were approximately half that of forgings made from conventional rod. We think that is pretty good evidence that the rod made by our semi-continuous process is exceptionally uniform by all standards. Incidentally, our new billet casting department is quite a model of automation and has a number of interesting processes and features. Anytime you happen to be in our area we would be more than happy to show you through and explain the many points of this process that gives us what we firmly believe to be the best possible rod available today which of course is reflected in the quality of our forgings.

If you would like a folder that fully covers our semi-continuous process, just drop me a note and I'll see that one is sent along to you promptly. In the meantime, we'd like to have you investigate our super-cutting S-C rod because we think it will improve your product quality—and we've got the alloys to do most anything to meet the most exacting demands.

Thanks for your time.

MUELLER BRASS CO.

PORT HURON 38, MICHIGAN

199

Here's one way to lick the tobacco surplus!

The only thing operating in Department 3 is the cigarette machine. The men have been standing around since they clocked in this morning. Loafers? By no means. It's just that no work has reached their department.

Yet certain other departments have more work than they can handle. Overtime on the one hand . . . idle time on the other. Think what scheduling like that does to profits!

Management finds out about these things, of course – when it's too late. But with the Keysort Plant Control Plan they need not occur at all. PCP work-load summaries enable you to schedule production jobs by department *in advance*. Knowing what's ahead, you can transfer men, plan extra shifts or layoffs so that each man-hour pays off fully in work done.

The Keysort Plant Control Plan can supply every fact you need for production and cost control. Plus the *on time*, accurate reports that provide a regular check on performance. Monthly, weekly, daily–as your needs require. At remarkably low cost.

The nearby McBee man has a presentation which will show you how it's done. Phone him, or write us.

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Punched-card accounting for any business

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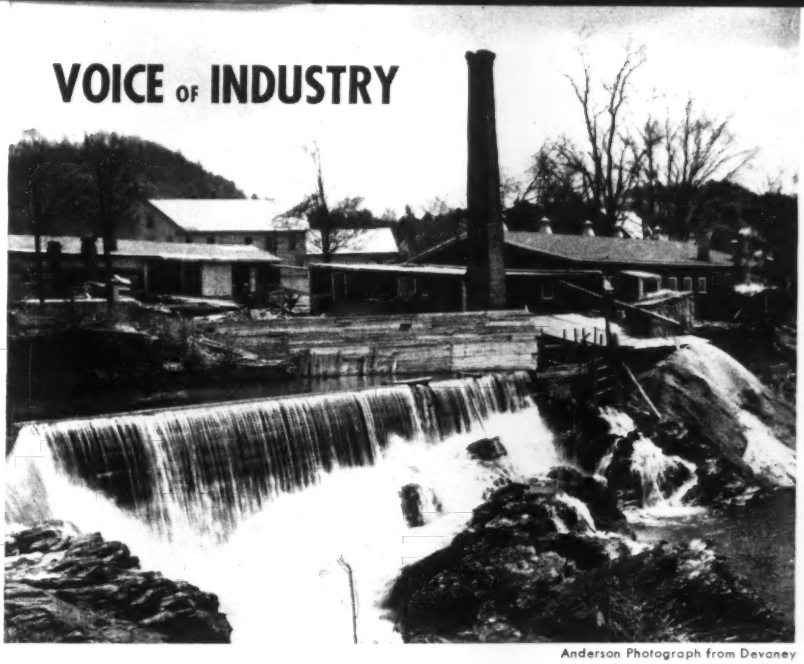
VOICE OF INDUSTRY



Anderson Photograph from Devaney

THE SMALL COMPANY'S MOST IMPORTANT CAPITAL

In the light of its liabilities, small business management takes a look at the strongest assets it can use to keep in competition with the big companies.

AS REPORTED TO GROVER AMEN

J. LAWRENCE BUELL, JR.
President,
Formsprag Company

We've been hearing much talk of late, in supposedly informed circles, about little business being "on the rocks." After scanning the recent crop of business obituaries and mergers, many experts seem to have concluded that the small company can no longer compete in an economy dominated by giant corporations. "Be big or be broken," they argue, are the only alternatives open to businesses today.

I dispute that pessimistic forecast. Big business needs, and will always continue to need, the help of little business. Complex, dynamic, and constantly improving though it is, big business is not, and is never likely to become, completely self-sufficient. For that reason big business and small business can and must help each other to a certain degree.

There are several methods by which the smaller partner can contribute constructively to such a partnership. One way is through taking care of small-volume requirements that the large manufacturer cannot afford to handle, from either a time or cost angle. A second method is by providing fast emergency service.

However, the most significant contribution that a small company can make to such a partnership with big business is through specialization—by turning out one particular product, or providing one particular service, that the larger company cannot

OUTPERFORMS and Out Values all lift trucks in its class
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ENGINEERED YEARS AHEAD

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- Synchronized 12-volt heavy duty system
- Feather-controlled stops
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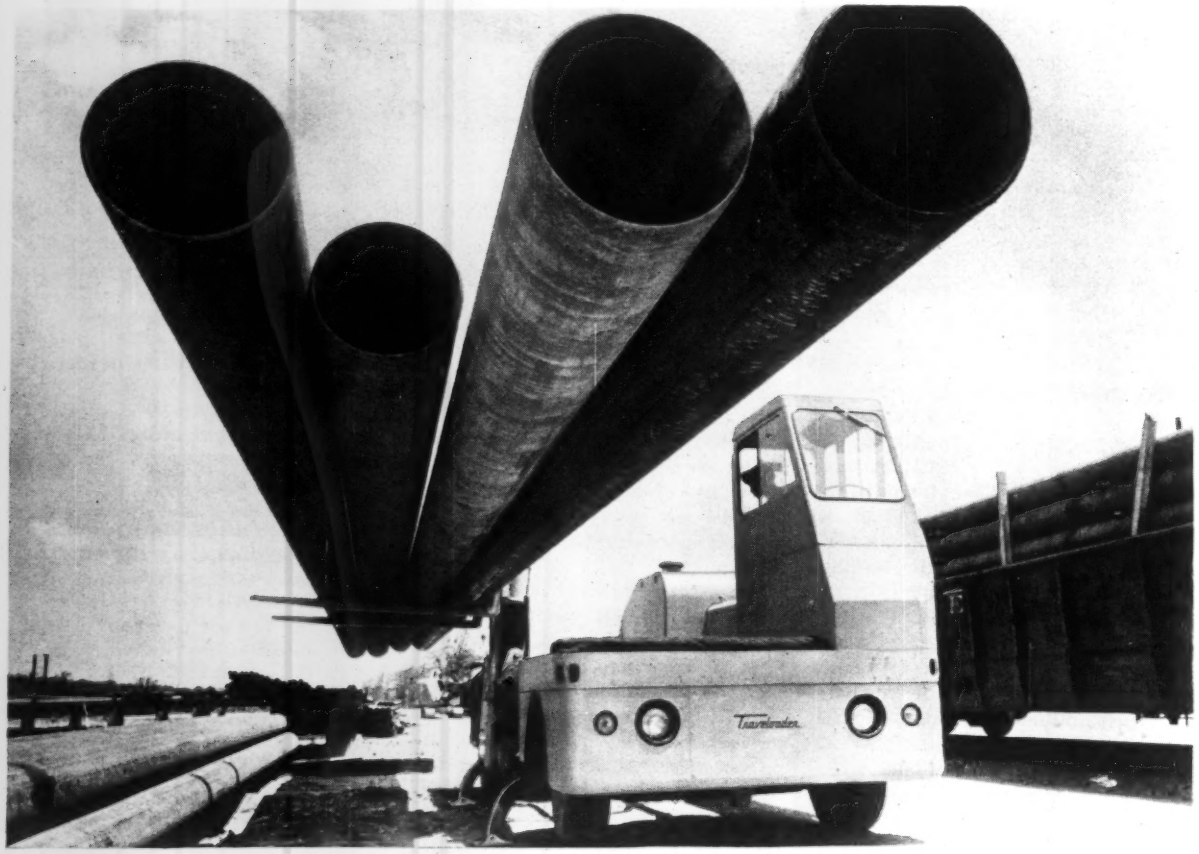
OTIS ELEVATOR COMPANY, ALWAYS THE LEADER IN VERTICAL MATERIALS HANDLING, HAS TAKEN ITS FIRST STEP TOWARDS LEADERSHIP IN HORIZONTAL MATERIALS HANDLING.

THE BAKER-RAULANG COMPANY . .

WORLD'S WORD FOR ELEVATOR QUALITY



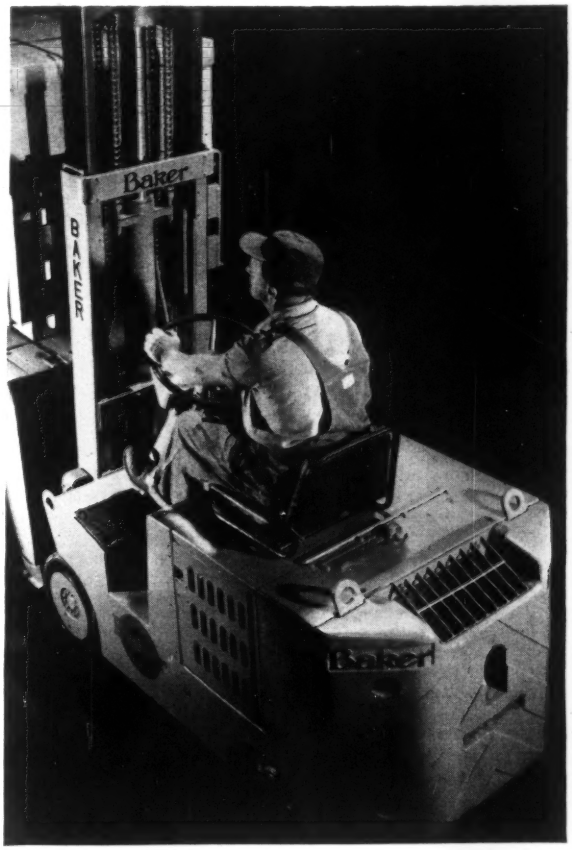
Among the products of The Baker-Raulang Company is the Traveloader, an entirely new concept in the field of mechanized handling of long, bulky loads. The Traveloader performs three distinct operations. It stacks like a fork truck, carries like a straddle truck, and delivers like a road truck. Gas or Diesel-powered Traveloaders are available in 6,000 to 30,000 pound capacities. A 4,000 pound capacity Electric-powered Traveloader with solid tires is available for indoor handling in narrow aisles.

OTIS has greatly expanded the engineering and research facilities of its recently acquired subsidiary, the BAKER-RAULANG COMPANY, Cleveland, Ohio. The product line has been broadened. It now includes a complete range of GAS and ELECTRIC Fork Trucks and an exclusive line of GAS and ELECTRIC side-loading Traveloader® Trucks, also Crane and Platform Trucks. You can now look to OTIS and BAKER for progress in horizontal materials handling.

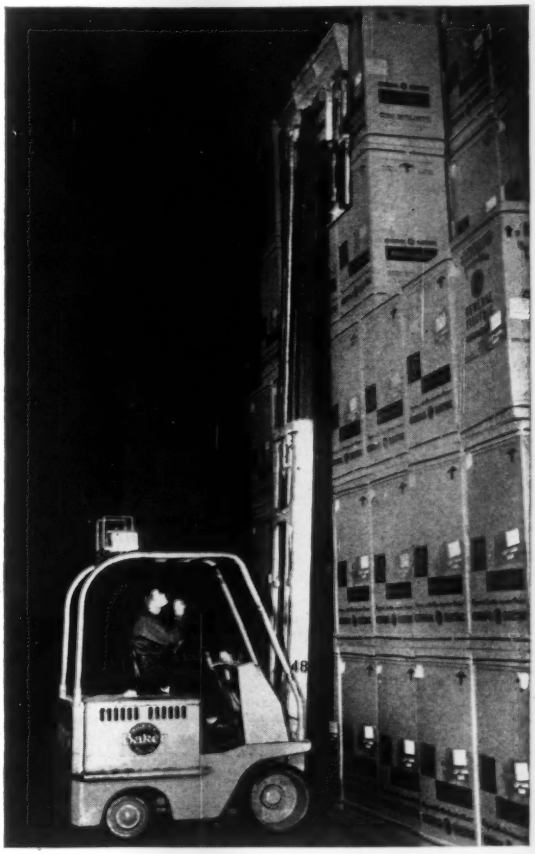
. . AN OTIS SUBSIDIARY, IS THE MAKER OF

Baker®

GAS AND ELECTRIC
industrial trucks



Baker's newest gasoline powered fork truck is available in many models, with capacities to 6,000 pounds. It features low initial cost, high lift, plus speed and economies of operation.



The battery-powered fork trucks in the Baker line range in capacity from 1,000 to 15,000 pounds. Baker was a pioneer in materials handling and has been producing electric industrial trucks for more than 35 years.

What's Your Loading Problem?

☐ GROUND LEVEL LOADING? ☐ YARD CAR HANDLING?
☐ INADEQUATE DOCK FACILITIES? ☐ TEAM TRACKS?

THIS MAGLINER MAGNESIUM LOADING DOCK ON WHEELS CAN SAVE YOU THOUSANDS OF DOLLARS! REPAY ITS COST IN JUST A FEW MONTHS!

If you have no dock; an older building; a yard handling problem; need extra or movable dock facilities—then the Magliner Mobile Loading Ramp can solve your problem too! Combining magnesium strength with magnesium lightness—Magliner loading ramps can be moved by one man . . . give you a "loading dock" *where and when you want it*! Magliner loading ramps eliminate hand loading . . . speed operations . . . cut expense! For highway trailers and yard cars. Get the Facts—write today for Bulletin DB-211.

Mobile Loading Ramp

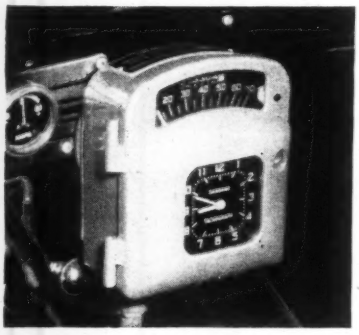
MAGLINE INC., P. O. BOX 243, PINCONNING, MICH.

Canadian Factory: Magline of Canada, Ltd., Renfrew, Ontario

Wagner Sangamo

Tachographs

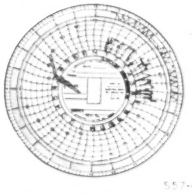
provide graphic records of individual truck performance. *Aid legal departments in claim settlements.*



Tachograph charts provide your legal department with factual information that can be helpful in eliminating costly court cases and in settling accident claims. Tachographs record on easy-to-read wax-coated charts, the complete performance story: when truck started—speed and distance traveled—duration of stops—and idling time. They encourage safer, more efficient driving practices and in the event of accident, furnish graphic proof of the vehicle's movements. The Tachograph clock, speedometer and odometer are illuminated for easy visibility. A red warning light can be set to flash whenever your speed limit is exceeded. Tachographs are available in either miles-per-hour or revolutions-per-minute models. For the *whole* story on how Tachographs can help you, send the coupon below for your copy of Bulletin SU-3.

Wagner Electric Corporation
6439 PLYMOUTH AVE., ST. LOUIS 14, MO.
Please send a copy of Bulletin SU-3.

Name and Position _____
Company _____
Address _____
City _____ State _____
We operate _____ (NUMBER) Vehicles



557-6

hope to match. Often this contribution by the smaller partner has proved an all-important factor in the big partner's success. Consequently, we have no fear of being crushed by big business. Rather, we wish big business every success. It is our best customer. That's why I say that it's not the small business, but only the small-thinking business man, that is on the skids.

Service through specialization is the key to success for any company that can't compete in terms of size. The small business that fails to face up to this challenge is not being killed off by big business or anybody else. It is committing suicide.

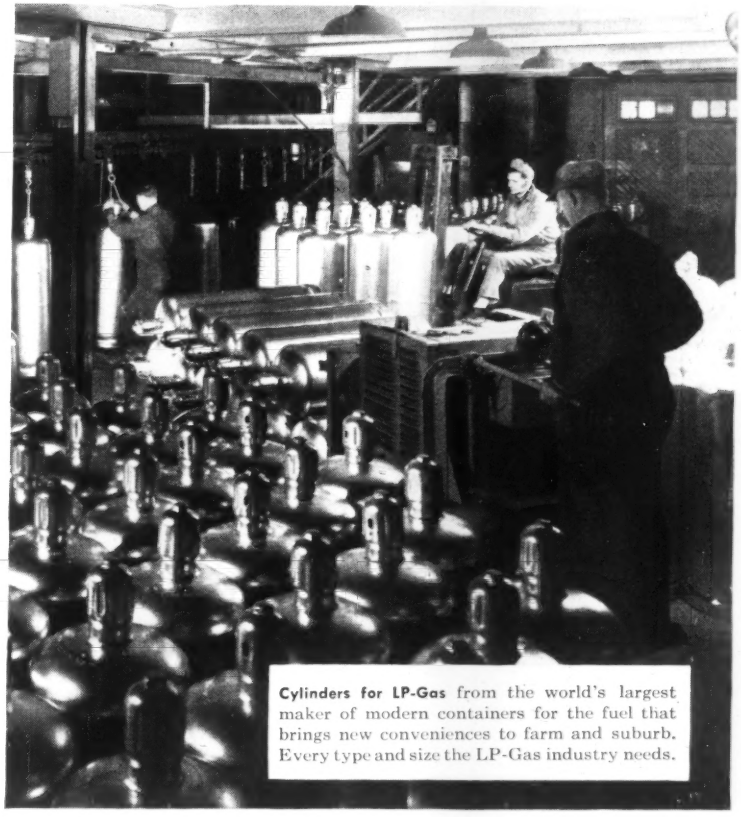
ROBERT A. WEAVER, JR.
President,
Bettinger Corporation

The small business man is not shackled to the same degree as the large corporation by committee indecision and compromise, or inter-departmental conflict. He can make and implement decisions quickly. He can meet a change in market conditions, take advantage of breaks, or head off a blow much faster than his larger competitor. Being closer to his customers, employees, suppliers of capital, legal counsel, and so on, he has avenues of communication and sources of information not generally available to the big corporation that must move through the chain of command and hew to protocol. This directness of approach also gives the small company an opportunity to seek cooperation on a more personal level than the giant company can. In the business world, a company is often no better than the friends it can make.

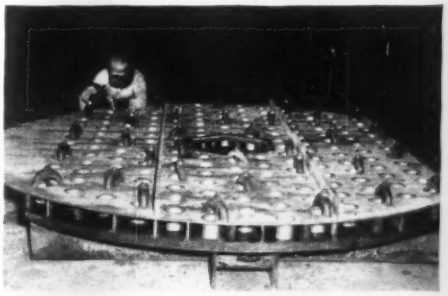
The biggest problem for the aggressive small business man who uses his flexibility is the acquiring of enough fresh capital—but even here flexibility can be an advantage.

And there are other advantages. On a regional basis, the small company is often far stronger than the large national company. In introducing new products in its region, it can gain from more intensive sales and promotional activities, better customer service, and more effective advertising. The smaller company, find-

Industry is in good shape

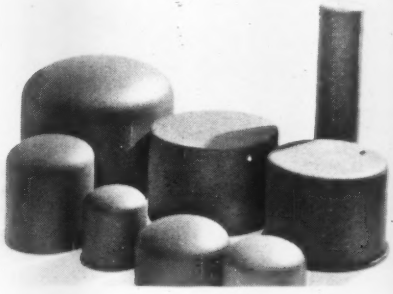


Cylinders for LP-Gas from the world's largest maker of modern containers for the fuel that brings new conveniences to farm and suburb. Every type and size the LP-Gas industry needs.



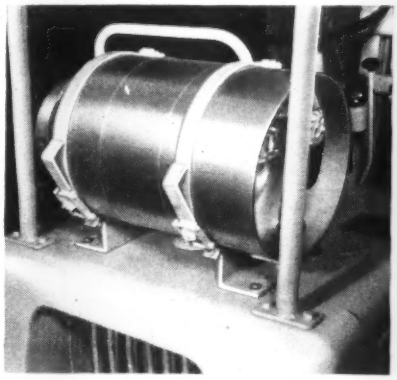
▲ **Towers for refineries,** petrochemical plants. Precision welding on one of 40 trays of a 93' stainless steel column. Custom-built at Downingtown, with 86,680 stainless steel welds.

Deep drawn shapes for lower unit costs. Hackney seamless shapes and shells help produce lighter, stronger products for all industry. ▼



when the shape is built by...

Drums for special chemicals, food and viscous type material. Hackney containers have smoother, crackless surfaces for easier handling, lower cost maintenance and shipping—available in stainless steel, mild steel, nickel.



Lift truck tanks for LP-Gas. Lightweight and replaceable Hackney cylinders make it easy to convert and cash in on this cost-cutting fuel—this means lower operating and handling costs for industrial lift truck users.

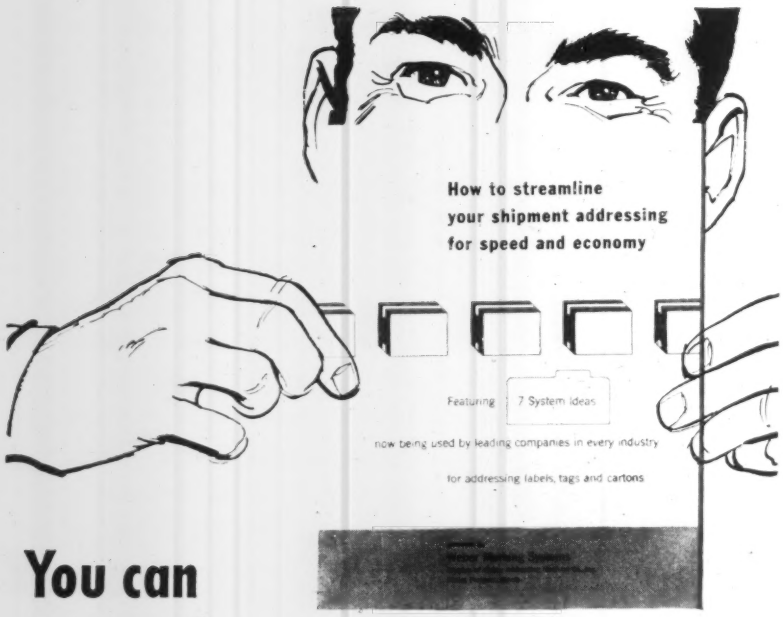
Cylinders for gases. Strong but light in weight, these Hackney cylinders are available in many sizes for easier shipment of high- or low-pressure gases. Pressed Steel Tank Company, 1465 So. 66th St., Milwaukee 14, Wis.

Pressed Steel
Downingtown

Hackney MILWAUKEE — DOWNINGTOWN IRON WORKS

Manufacturer of Hackney Containers for Gases, Liquids and Solids

Heat Transfer Equipment
Steel and Alloy Plate Fabrication


How to streamline
your shipment addressing
for speed and economy
Featuring 7 System ideas
now being used by leading companies in every industry
for addressing labels, tags and cartons

You can speed up your shipments with fewer people and eliminate costly errors

THE ANSWER—improve your method of addressing shipments. Remember, nothing gets shipped until it's been addressed. Old-fashioned labeling and stenciling methods can seriously delay shipments and waste precious time and labor. You can have the best planned order-filling system and the latest material handling equipment and never get your product off the shipping dock. The real key to an efficient, smooth rolling shipping operation is a modern system for addressing your shipments.

FIRST STEP—Send for this new comprehensive booklet "How to streamline your shipment addressing for speed and economy," describing 7 modern systems for fast, efficient addressing of labels, tags and cartons. It's jampacked with helpful ideas.

HIGHLIGHTS OF THIS NEW ILLUSTRATED BOOKLET

- How to evaluate the efficiency of your shipment addressing operation
- Modern systems for addressing labels and tags
- The latest direct-to-carton stenciling systems
- The key to a better shipping operation
- Integrated shipment addressing, the newest trend in office systems

Your free copy is waiting
Send for it today!

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City.....Zone.....State.....

Weber

WEBER MARKING SYSTEMS
Division of Weber Addressing Machine Co., Inc.
Mount Prospect, Ill.
SALES AND SERVICE IN ALL PRINCIPAL CITIES

ing it easier to produce efficiently, has a lower break-even point. It frequently can offer customers a better price than the large company.

The small company can go after small-volume business, which the large company cannot afford to do. And finally, it can offer more of a "custom-made" product than the large company.

JOHN E. ORCHARD
Chairman of the Board,
Orchard Brothers, Inc.

In speaking of small business, we too frequently fail to distinguish between different types of small business and the problems peculiar to each. I speak strictly from the point of view of the small manufacturer.

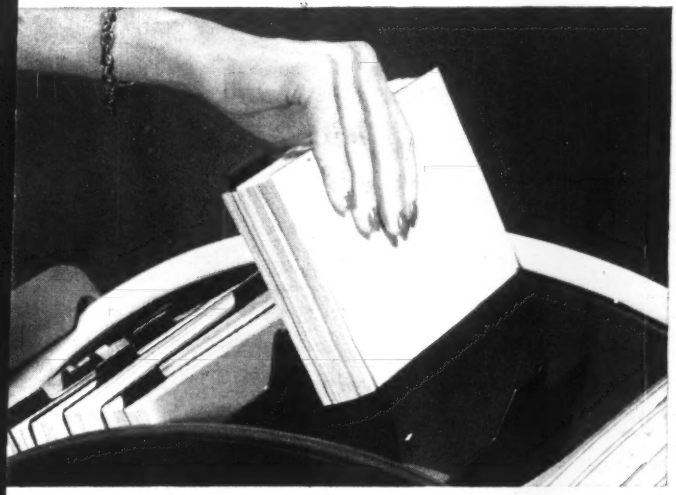
There's a flock of us who have less than 150 employees, but this flock numbers about 225,000, represents 90 per cent of all manufacturing establishments, and employs nearly 10 million people. We're a bit different from other small businesses since we have almost ten times their asset investment per employee.

Because we're small, we have definite advantages over the large manufacturer, but we also have certain disadvantages in competition with larger manufacturers and *in comparison with other small businesses.*

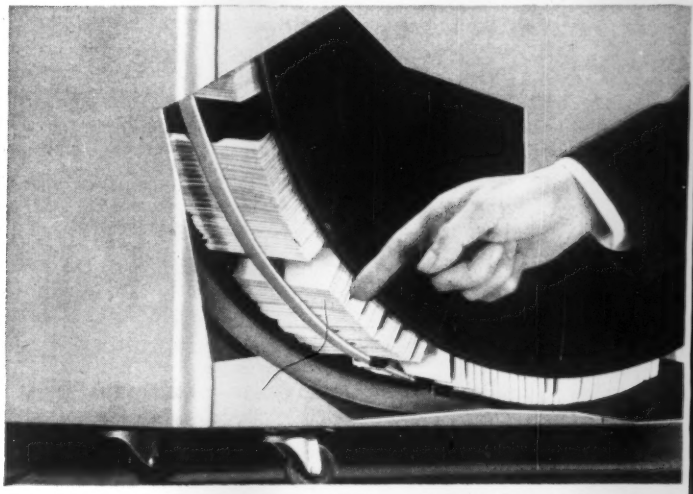
We're more flexible and we can move faster. Our customers don't have to wait weeks for committee action or for time to become available in the tool and die shop. But we must take care that this asset does not become a liability—for it leaves us open to more mistakes. The big business committees can take the time to examine all the "why-nots." We can't. If our mistakes are small and not too numerous, we're okay. But if we make a big mistake, or too many small ones, we lack the resiliency (bankers call it capital, but there are other factors involved) to pull through. And we have the same kind of manufacturing costs that big business has. Or to put it in a more disturbing way: It costs us relatively as much to make a big mistake as it would cost a big business. This is not the case with most other non-manufacturing small businesses.

4 Reasons to take a new look at rotary card filing

1. **USES PRESENT CARDS.** With amazing Mosler Revo-File, no costly transposition is needed. You save an average of $200 in change-over costs plus big savings in time, space, money over old-fashioned filing.



2. **REMOVE OR REFILE ONE CARD OR HUNDREDS** instantly. Mosler Revo-File holds cards without mechanical attachment. No wear on card or clerk. Ups efficiency. Gives real finger-tip control.



3. **CARDS CAN'T DROP OUT.** Mosler Revo-File is the only file of its type that doesn't rely on notched cards that wear out in use. The patented, exclusive belt method of holding records in file assures complete protection against card "fall-out" or wear.

4. **FILING IS FASTER, REFERENCE IS QUICKER** with Mosler Revo-File as "cards come to clerk" instead of clerk going to cards. Note automatic visual "V" permits easy reference to any card. Revo-File available in manual or electric automatic selector models.

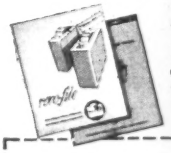
* * * * *

For big volume filing Mosler Roto-File can accommodate more than 80,000 cards . . . has all the exclusive features of Mosler Revo-File. Several clerks can work at same time.

Another fine product of The MOSLER SAFE Company

MOSLER REVO-FILE

FREE!



HOW TO MODERNIZE AN ACTIVE CARD FILE IN MINUTES.

If you have 3,000 or more active card records of any type or size (including tabulating cards) which are used continuously for reference and posting, mail this coupon *today!*

Department DR-173, REVO-FILE DIVISION,
THE MOSLER SAFE CO., 320 Fifth Ave., New York 1, N. Y.

Please send me complete information on Mosler Revo-File and how to modernize an active card file in minutes.

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COMPANY_____

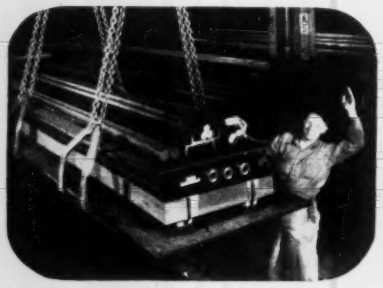
ADDRESS_____

CITY_____ ZONE_____ STATE_____

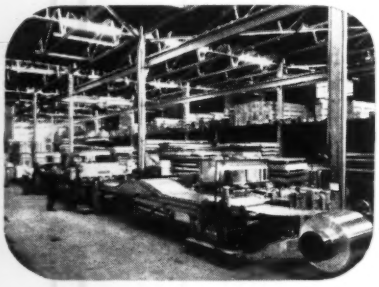
Six ways
Ryerson can serve you

Chances are that when you think of steel from stock, Ryerson springs first to mind. And for good reason. Every kind of steel, every shape and size, is immediately available from our tremendous reservoir.

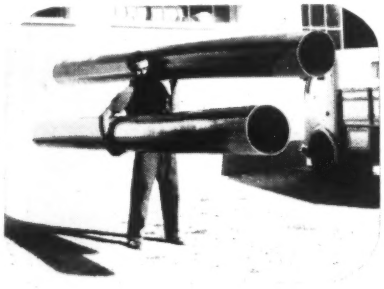
But perhaps you don't always remember that Ryerson offers you much more—many other important products and services such as aluminum, plastics and fabricated construction steel. The pictures below illustrate the extent of our service. For a complete listing see the familiar red Ryerson catalog. Then as your needs arise—or whenever you have a question of selection, fabrication or application—look to Ryerson as your most complete and dependable source of help.



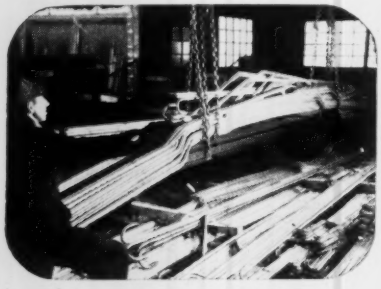
STEEL FROM STOCK
Carbon steels, alloys, stainless—bars, structurals, plates, sheet and strip, tubing—you can get quick shipment of one piece or truckloads from the world's largest steel stocks, at Ryerson. Get the steel with the certified seal—of quality.



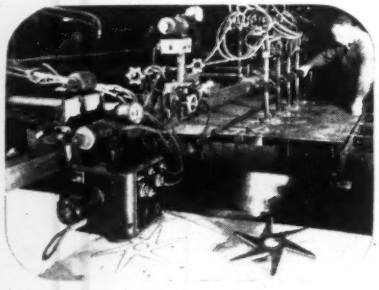
ALUMINUM FROM STOCK
In areas served by our Chicago, Milwaukee, New York, Boston and Connecticut plants, draw on Ryerson stocks for aluminum too—sheets, coils, bars, plates—practically any aluminum requirement in stock sizes or cut to your order.



PLASTICS FROM STOCK
The convenience and dependability of Ryerson service is also available to buyers of industrial plastics—PVC pipe, valves and fittings, sheets and rods, rigid Kralastic pipe, flexible polyethylene pipe and tubing, etc.



FABRICATED CONSTRUCTION STEEL
Re-bars, spirals, etc. for reinforced concrete construction are fabricated at Ryerson plants from coast to coast. Also, at Chicago, Ryerson fabricates structural steel for the framework of buildings, bridges, etc.



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Your nearby Ryerson plant can quickly flame cut almost any shape from carbon, alloy or stainless steel—producing a single piece or thousands accurate to size and ready for your application. We take the work load—you save money.

MACHINERY AND TOOLS
The broadest line of metal-working equipment available from a single source is offered by the Ryerson Machinery and Tool Division. You can choose from thousands of types and sizes produced by nearly one hundred manufacturers.

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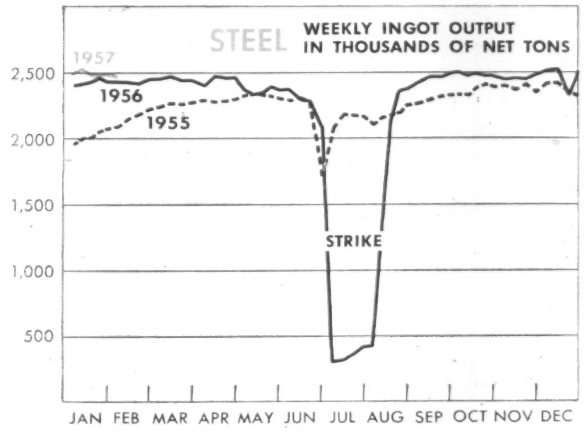
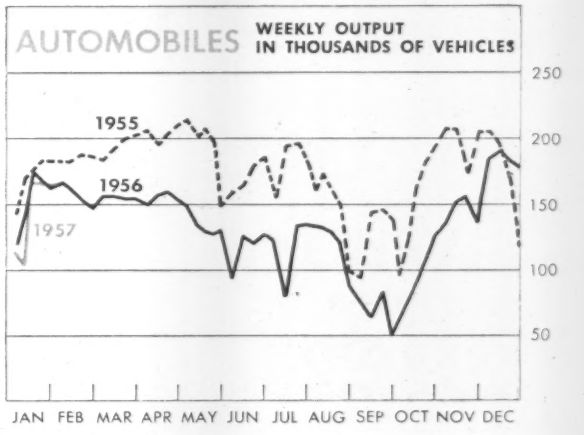
PRODUCTION HIGHER IN TWO BASIC INDUSTRIES...





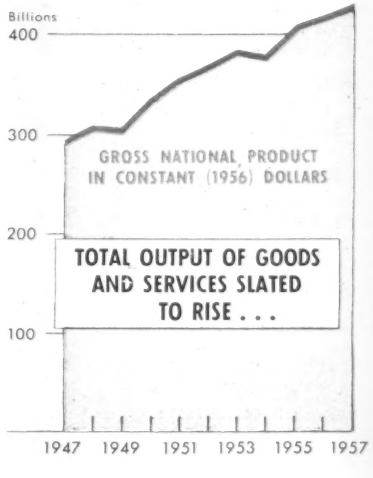
THE TREND OF BUSINESS

PRODUCTION was indeed higher in two basic industries—the question was, how long might it stay there. Industrial production drifted along at near-peak levels in January and early February. While there was little doubt that high levels of output could be maintained throughout 1957, there were signs of diminished vigor in some manufacturers' orders.

Output in the automobile and household appliance industries in the first six weeks of 1957 was not as high as the manufacturers had previously planned. This was reflected in diminished orders for the lighter grades of steel. With the exception of the construction and petroleum industries, whose activities continued to require heavy buying of structural steel and steel pipe, many users of steel seemed content to pare their inventories.

The slackening in orders for some kinds of steel was not immediately reflected in production. Some steel producers switched from the production of the lighter grades of steel to the heavier gages, still in unprecedented demand. The backlog of orders for structural steel in the early part of 1957 amounted to more than a year's output at 1956 production rates.

But unless there is an upsurge in sales of automobiles and appliances, steel operations may be reduced earlier than it was thought likely at the beginning of the year. It was thought originally that steel production might slacken in the third quarter of 1957, after an inventory buildup in the first half. Based on current buying rates, it appears now that output may fall below the 65 million ton level originally projected for the first half of the year, but that the difference may be made up in the second half, with production spread more evenly throughout 1957.



It is estimated that 1957 steel ingot production may reach 118-120 million tons, 3 or 4 per cent more than in 1956. With productive capacity of roughly 133 million tons, this implies operations at 88-90 per cent of capacity for the year, somewhat less than the 97 per cent average for the first six weeks (chart above).

Auto sales lag

There were conflicting reports about January sales of automobiles. Many of the manufacturers and dealers surveyed by *Automotive News* in the early part of February glowingly described January volume as the best, or near-best, ever experienced for the time of year. Production, allegedly, was at a slower pace than sales.

After a slow start at the beginning of the year, automobile output gained some ground, surpassing the year-ago level by a slight margin (chart, above). But the sales pace was more difficult to measure, lacking January figures for new car registrations. The dealers' sales esti-

Part of the year-to-year rise in gross national product expected for 1957 has already occurred; GNP in the first quarter is at an annual rate close to $425 billion.

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mates were based on orders they wrote after receiving down payments, transactions which conceivably could be cancelled. The registrations figures, on the other hand, count sales only after the car is delivered and titled. The registrations figures for December for 24 states, the latest available at this writing, were 15 per cent below the previous year's level, a slightly smaller decline than the 17 per cent for the first eleven months of 1956.

There is some evidence that the dealers' rapturous reports may belie the facts. Dealers' stocks of new cars at the end of January were estimated at 620,000, slightly higher than the 550,000 at the beginning of the month. While this was well below the 870,000 a year ago, dealers here and there admitted that they had more cars on hand than they could readily sell. The sales enthusiasm varied, of course, by make and model, with the medium-priced cars frequently lagging in popularity.

The real test in automobiles will be the extent of the Spring upturn. An official of one of the larger manufacturers of automobile transmissions and parts recently said that he thought the production estimates of 6.5 to 6.7 million cars for 1957 overly optimistic. To him, 6.1 to 6.3 million cars seemed a more real-

BUSINESS SIGNPOSTS

1939 Average	1947 Average	Selected WEEKLY Indicators†	Latest Week	Previous Week	Year Ago
102	163	**STEEL INGOT PRODUCTION** Ten Thousand Tons (a)	248	250	233
25	49	**ELECTRIC POWER OUTPUT** Ten Million KW Hours (b)	119	120	113
76	121	**BITUMINOUS COAL MINED** Hundred Thousand Tons (c)	97	88	102
69	92	**AUTOMOBILE PRODUCTION** Thousand Cars and Trucks (d)	173	170	153
35	98	**DEPARTMENT STORE SALES** Index 1947–1949 = 100 (e)	102	94	97
5	13	**BANK CLEARINGS** Hundred Million Dollars (f)	257	186	186
284	67	**BUSINESS FAILURES** Number of Failures (f)	317	287	252

1939 Average	1947 Average	Selected MONTHLY Indicators‡	Latest Month	Previous Month	Year Ago
58	100	**INDUSTRIAL PRODUCTION** Index 1947–1949 = 100 (e)	145	144	143
58	95	**NONFARM COMMODITY PRICES** Index 1947–1949 = 100 (g)	125.2	124.7	120.4
37	100	**FARM COMMODITY PRICES** Index 1947–1949 = 100 (g)	89.3	88.9	84.1
59.4	95.5	**CONSUMERS' PRICE INDEX** Index 1947–1949 = 100 (g)	118.2	118.0	114.7
3.5	10.0	**RETAIL SALES** Billions of Dollars (h)	14.9	19.5	13.9
5.4	15.6	**MANUFACTURERS' SALES** Billions of Dollars (h)	28.0	28.7	27.0
45.8	58.0	**EMPLOYMENT** Millions of Persons (h)	62.9	64.6	62.9
72.9	190.5	**PERSONAL INCOME** Billions of Dollars, seasonally adjusted annual rate (h)	333.5	333.6	317.5
103	257	**BUILDING PERMIT VALUES** Millions of Dollars (f)	416.0	386.4	431.4

SOURCES: (a) Amer. Iron & Steel Inst.; (b) Edison Elect. Inst.; (c) Bureau of Mines; (d) *Automotive News*; (e) Federal Reserve Board; (f) DUN & BRADSTREET, INC.; (g) Bureau of Labor Statistics; (h) Department of Commerce.

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Mr. R. E. Randall
BUYER
Libby, McNeill & Libby
Chicago, Illinois

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WITHOUT realizing it they'll use from two to four single fold towels just for drying
— wasting up to 40 inches of towelling.
But you can control this waste.
With savings up to 40%!
How?
*By installing WESTROLL TOWELS in West Micromatic Cabinets.**

PEOPLE quickly unroll as little or as much as they want. But without realizing it they take less. Averaging 17 inches of soft, absorbent WESTROLL.
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**Cabinets are loaned.*

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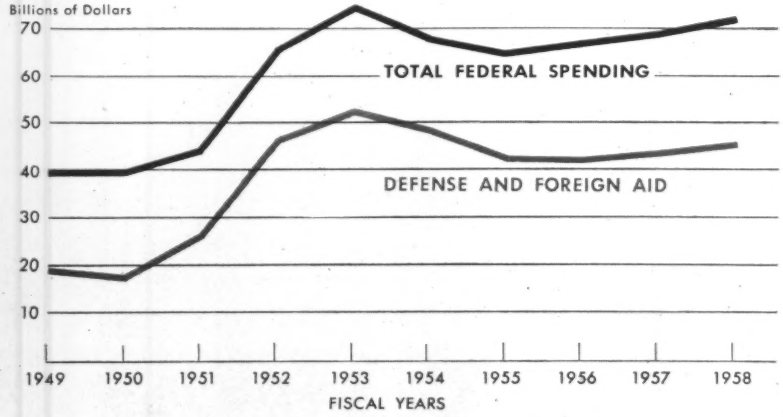
THE BUDGET CALLS FOR HIGHER FEDERAL OUTLAYS



Most of the proposed increase in Federal spending is for defense. The only declines in Federal outlays are to occur in aid to commerce and housing and in general government expenses. Resource development and aid to agriculture will cost more than ever before.

istic output for this year. Privately, some of the auto manufacturers agreed that their original estimates might be a bit high, but they still felt sure that production would top 1956's 5.8 million cars.

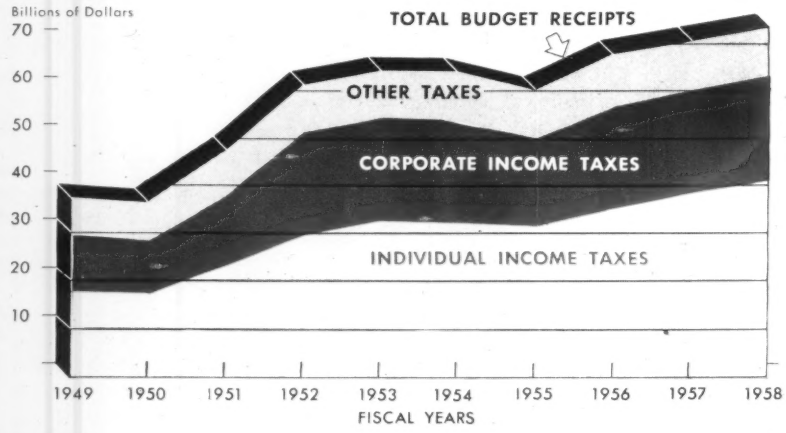
Budget requires expansion

Whether or not its enactment might result in a hair-curling debacle, as Treasury Secretary Humphrey suggested, the record appropriations called for in the Federal Budget for fiscal 1958 would unquestionably have a profound impact on the economy. This is the largest peacetime budget ever presented to Congress; it calls for the spending of $71.8 billion, some $2.9 billion more than in the fiscal year 1957 which ends on June 30. The Social Security, unemployment insurance, and highway programs are handled through special trust funds which collect their own income and are not included in the budget.

Budget receipts for fiscal 1958, estimated at $73.6 billion, are predicated on a continued expansion in the volume of business sales and income. The plausibility of these expectations was confirmed by the recent testimony of many well-known

Based on a 3 per cent rise in 1957 personal income and a 2 per cent rise in corporate before-tax profits, Federal income is scheduled to rise. A higher volume of general business is expected to boost receipts from employment, excise, and other business taxes, too.

FEDERAL TAX PAYMENTS SCHEDULED TO INCREASE



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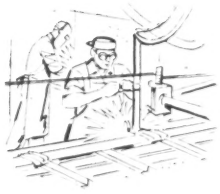

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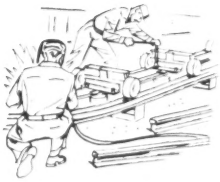

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A *Service* installation crew erects and test runs each *Service* Conveyor System. . . This group of factory specialists work as a team and do the job better—and without costly production delays.

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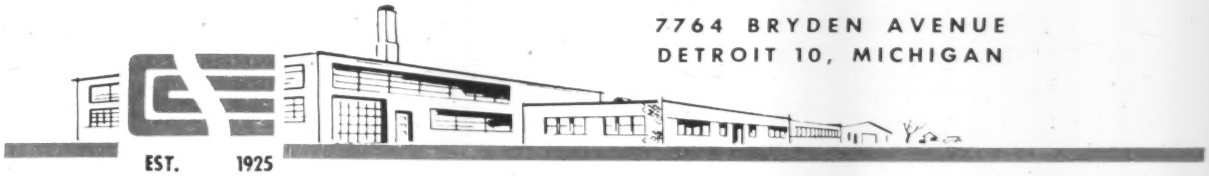

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economists at hearings held in Washington before the Joint Congressional Committee on the Economic Report.

Employment contracted

A seesaw movement, usual for the time of year, was evident in employment in January. Cutbacks after Christmas at retail stores and Post Offices, coupled with seasonal declines in construction and other outdoor work resulted in a drop in employment in January to 62.9 million from December's 64.6 million. The number of jobless increased by only 500,000, however, as housewives, students, and other holiday workers withdrew from the labor force.

Nonfarm employment was higher than in any other January, up 1 per cent from a year ago to 57.9 million. While manufacturing employment in January was higher than a year ago and the second highest since World War II, it was below the December level because of greater than seasonal declines in the output of apparel, radio and television, furniture, and fabricated metals. Both the average work week in manufacturing and the average weekly earnings of factory workers declined in January as a result of fewer hours of overtime work and an increase in the number of job-holders on shortened work weeks because of slackened output.

Jobs to increase

Employer hiring plans, surveyed in January by the Bureau of Employment Security, implied slight gains in employment through the first quarter of 1957. More workers were scheduled to be hired by the construction, aircraft, apparel, chemicals, metals, and machinery industries. The increase in job openings was expected to be slight.

Of the 149 major employment centers surveyed, there were nineteen areas of relatively substantial labor surplus in January, one fewer area in this category than in November. Two centers, the Hartford, and Stamford-Norwalk areas, continued to have labor shortages. There were 44 areas where local job opportunities slightly exceeded the number of workers, and 84 areas where the reverse was true.

Chicago, one of the areas with slightly more job openings than ap-

plicants, plans an unusual "job fair" in the early part of July. This effort to attract a half-million or so workers to the Chicago area will feature ice shows, water shows, fireworks, and various other entertainments. Information about current and future job openings will be furnished by 200 companies cooperating with the Chicago Association of Commerce and Industry. The data will be fed into Univac, the electronic computer. Visitors will be invited to fill out applications listing their qualifications. This information, too, will be fed into Univac and the machine will match the applicants with the job opportunities.

Building off seasonally

Raising the question whether business might be curbing its plant expansion plans, an official of the F. W. Dodge Corporation cited the sharp declines in contract awards for new industrial and commercial buildings in the fourth quarter of 1956 as evidence that plans for plant and equipment spending may be undergoing some revision.

There was not much sign of slackening in actual outlays for construction in January, however. Valued at $3 billion, new construction put in place in January was at a record level for the time of year, surpassing last year's volume by 3 per cent. While private nonresidential building was less than in December, the decline was largely seasonal. Private industrial building was 20 per cent higher than in January 1956, while the construction of warehouses and office buildings was up 15 per cent. Outlays by the public utilities for new construction in January were 3 per cent higher than a year ago.

Notwithstanding some doubts about the rate of increase, it was generally agreed that 1957 might be another record year for construction. Some observers believed that a tapering in business spending for new construction might aid housing by releasing more funds for mortgage financing. And public works construction is scheduled to rise considerably.

Machinery orders high

While orders for industrial supplies and machinery dipped somewhat in December, the month-to-

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month drop was no larger than that which occurred in the comparable period of 1955, and orders remained considerably larger than a year ago.

The new order index compiled by the American Supply and Machinery Manufacturers Association was at 207.5 (July 1948=100) in December, down from November's 215.9. Orders for production tools, supplies and equipment in the fourth quarter of 1956 were at a level surpassed only during the Korean crisis.

Retail sales up

Successful clearance and promotional sales of apparel, furniture, and linens in January and early February helped retailers maintain moderate year-to-year gains in sales. Retailers sold $14.9 billion worth of merchandise in January. After adjustment for the number of trading days, this was about 5 per cent higher than last year's retail volume.

Price trend mixed

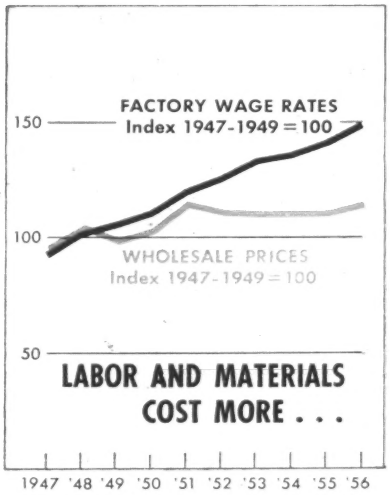
Wholesale prices moved downward in January and early February, although the over-all average remained above a year ago. There were divergent fluctuations in the various commodity groups. The wholesale

FAILURES BY DIVISIONS OF INDUSTRY

(Current liabilities in millions of dollars)	Number January 1957	Number January 1956	Liabilities January 1957	Liabilities January 1956
MINING, MANUFACTURING	197	209	16.1	14.4
Mining—Coal, Oil, Misc.	6	2	1.5	0.1
Food and Kindred Products	13	16	1.6	0.9
Textile Products, Apparel	53	56	2.5	2.5
Lumber, Lumber Products	34	30	2.6	1.3
Paper, Printing, Publishing	11	9	0.6	0.3
Chemicals, Allied Products	3	4	0.7	1.7
Leather, Leather Products	5	4	0.5	0.3
Stone, Clay, Glass Products	3	1	*	*
Iron, Steel and Products	10	12	1.6	1.9
Machinery	19	24	1.9	1.1
Transportation Equipment	6	6	0.5	0.9
Miscellaneous	34	45	2.1	3.5
WHOLESALE TRADE	91	106	5.3	4.4
Food and Farm Products	18	30	1.2	1.1
Apparel	6	6	0.6	0.2
Dry Goods	1	3	*	*
Lumber, Bldg. Mats, Hdwre.	12	10	0.6	0.7
Chemicals and Drugs	1	6	*	0.1
Motor Vehicles, Equipment	7	4	0.6	0.4
Miscellaneous	46	47	2.3	1.9
RETAIL TRADE	612	535	17.9	14.9
Food and Liquor	101	85	1.7	1.1
General Merchandise	34	20	2.3	0.4
Apparel and Accessories	140	106	2.7	1.8
Furniture, Furnishings	86	78	3.7	2.6
Lumber, Bldg. Mats, Hdwre.	32	37	0.8	1.1
Automotive Group	59	63	2.4	4.7
Eating, Drinking Places	97	77	2.5	2.0
Drug Stores	14	9	1.0	0.1
Miscellaneous	49	60	0.8	1.1
CONSTRUCTION	177	126	10.7	6.2
General Bldg. Contractors	76	44	7.3	2.5
Building Subcontractors	89	74	2.9	3.2
Other Contractors	12	8	0.5	0.5
COMMERCIAL SERVICE	71	72	4.1	3.0
TOTAL UNITED STATES	1148	1048	54.1	42.9

*Less than $100,000.

Liabilities are rounded to the nearest million; they do not necessarily add to totals.



Hourly wage rates in manufacturing in January were at a record high of $2.05; wholesale prices advanced very slightly.

prices for raw industrial commodities and metals in early February dropped below a year ago, while the wholesale prices for foodstuffs, textiles, and fats and oils surpassed last year's levels.

The prices paid by consumers continued to rise. The cost of living in December was 18 per cent above the 1947–1949 average and 3 per cent higher than a year ago.

THE FAILURE RECORD

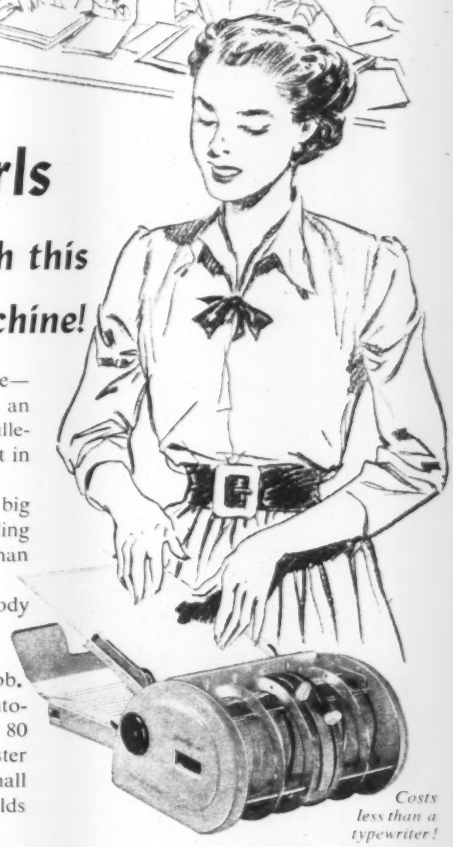
	Jan. 1957	Dec. 1956	Jan. 1956	P.C. Chg.†
DUN'S FAILURE INDEX*				
Unadjusted	50.4	44.8	47.9	+ 5
Adjusted, seasonally	48.0	47.2	46.1	+ 4
NUMBER OF FAILURES	1148	982	1048	+10
NUMBER BY SIZE OF DEBT				
Under $5,000	173	147	178	— 3
$5,000–$25,000	543	488	490	+11
$25,000–$100,000	306	263	303	+ 1
$100,000 and over	126	84	77	+64
NUMBER BY INDUSTRY GROUPS				
Manufacturing	197	172	209	— 6
Wholesale Trade	91	72	106	—14
Retail Trade	612	472	535	+14
Construction	177	183	126	+40
Commercial Service	71	83	72	— 1
	(LIABILITIES in thousands)			
CURRENT	$54,060	$50,279	$42,890	+26
TOTAL	54,825	50,358	43,712	+25

*Apparent annual failures per 10,000 listed enterprises, formerly called DUN'S INSOLVENCY INDEX.
†Per cent change, January 1957 from January 1956.

BUSINESS FAILURES *include those businesses that ceased operations following assignment or bankruptcy; ceased with loss to creditors after such actions as execution, foreclosure, or attachment; voluntarily withdrew leaving unpaid obligations; were involved in court actions such as receivership, reorganization, or arrangement; or voluntarily compromised with creditors out of court.*

CURRENT LIABILITIES, *as used in The Failure Record, have a special meaning; they include all accounts and notes payable and all obligations, whether in secured form or not, known to be held by banks, officers, affiliated companies, supplying companies, or the Government. They do not include long-term, publicly held obligations. Offsetting assets are not taken into account.*

Give your girls a break . . . with this low-cost folding machine!



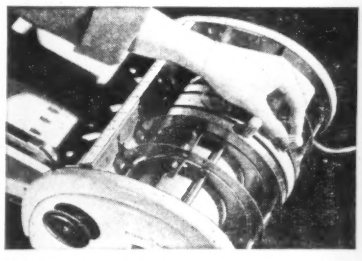
Hand-folding is a chore and a bore—needless drudgery in any office. It's an *expensive* way to fold form letters, bulletins, statements, etc. It hits you right in the profits.

Give your girls, *and* yourself, a big break with a little Pitney-Bowes Folding Machine. The Model FH costs less than a typewriter!

The small FH is easy to use, anybody can run it. And it does all eight basic folds used in office work. Just move two knobs and it's set for the job.

Electrically-driven, with semi-automatic feed, it can double-fold up to 80 letter-size sheets a minute—even faster with automatic feed (optional at small extra cost). Its big brother, the FM, folds 19,000 sheets an hour.

Costs less than a typewriter!



Move two knobs on inch scales to fold widths wanted—and the FH is ready to go!

The FH handles sheets from 3 by 3 inches to 8½ by 14 inches, in most all weights and finishes. Even folds sheets stapled together.

The FH quickly pays its way in any office. For a demonstration, call the nearest Pitney-Bowes office. No obligation. Or send coupon for free illustrated booklet.

The larger Model FM, fully automatic, folds up to 19,000 sheets an hour.

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BUSINESS FAILURES

ALTHOUGH the over-all level of business activity in January surpassed that of a year ago by a healthy margin, a larger number of businesses than last year sickened and died. Business failures in January jumped 17 per cent to 1,148, a postwar high for the month. Casualties were 10 per cent more numerous than in January 1956, but remained below the prewar level of 1,237 in 1940.

While smaller businesses continued to comprise almost two-thirds of the failures, there was a substantial rise in the number of concerns going out of business with losses to their creditors ranging from $100,000 to $1 million. Failures with losses from $25,000 to $100,000 were the heaviest in seven months, while those involving more than $100,000 were more numerous than in any month in about twenty years.

The aggregate current liabilities in January failures rose to $54 million, the largest volume since last August. This was 7 per cent higher than in December, 26 per cent above a year ago.

For each 10,000 businesses listed in the DUN & BRADSTREET *Reference Book*, 48 failed in January, according to DUN'S FAILURE INDEX. The index was at 47 in December, 46 in January 1956. Still, failures occurred at a moderately lower rate than the 55 for each 10,000 businesses listed in 1940. The Failure Index projects failures to an annual rate and is adjusted for seasonal variations (see table on page 29).

Manufacturing and trade accounted entirely for the month-to-month increase in failures, offsetting declines in mortality in the construction and service industries (table on page 28).

Retail failures were at a postwar peak in January, exceeding the December level in all lines except eating and drinking places. There was a sharp rise in the number of general merchandise and apparel stores whose passing from the business scene resulted in loss to creditors. In manufacturing, the unsuccessful predominated in the textiles-apparel and machinery industries.

Compared with a year ago, gains of 14 per cent in retail failures and 40 per cent in construction casualties contrasted with declines ranging from 1 to 14 per cent in the other industries. All types of construction failures increased, with the sharpest year-to-year rise among general builders.

It is interesting that the only two exceptions to the upturn from last year in retail failures were in the building materials and automotive trades. The toll among food wholesalers fell off considerably from last year, while mixed trends were apparent in manufacturing, with only slight shifts in either direction.

Eight of the nine major geographic regions reported higher failures in January than in December. The only decline took place in the Pacific states where failures were the fewest in eleven months. Both the Pacific states and the West North Central states had fewer casualties than a year ago.

WHY BUSINESSES FAIL

Classification of Causes of Business Failures, 1956

Based on Opinions of Informed Creditors and Information in Dun & Bradstreet's Credit Reports

APPARENT CAUSES	MFG.	WHOL.	RET.	CONST.	COMM. SERV.	TOTAL
NEGLECT	3.1	5.1	4.8	3.7	3.5	4.3
Bad Habits	0.5	0.9	1.2	0.7	1.2	1.0
Poor Health	2.1	3.5	2.7	2.3	1.4	2.5
Marital Difficulties	0.3	0.5	0.5	0.6	0.7	0.5
Other	0.2	0.2	0.4	0.1	0.2	0.3
FRAUD	2.0	4.6	1.9	1.9	1.0	2.1
Misleading Name	0.0	0.2	0.1	—	—	0.1
False Financial Statement	0.3	0.7	0.4	0.2	0.1	0.4
Premeditated Overbuy	0.1	0.3	0.1	0.2	0.1	0.1
Irregular Disposal of Assets	1.4	3.1	1.1	1.3	0.7	1.3
Other	0.2	0.3	0.2	0.2	0.1	0.2
INEXPERIENCE	92.7	88.0	91.1	92.2	91.8	91.3
Inadequate Sales	54.5	45.7	50.4	34.2	44.6	47.9
Heavy Operating Expenses	8.8	6.2	4.8	13.1	7.2	7.0
Receivables Difficulties	11.8	16.7	5.3	14.5	5.5	8.9
Inventory Difficulties	7.2	10.2	10.4	1.9	2.0	7.9
Excessive Fixed Assets	9.1	3.3	6.0	4.6	12.1	6.6
Poor Location	0.5	1.1	5.2	0.5	2.8	3.1
Competitive Weakness	14.9	20.6	21.0	28.4	24 8	21.2
Other	5.1	3.9	4.0	9.4	4.7	5.0
DISASTER	1.8	2.0	1.5	0.6	1.3	1.4
Fire	1.1	0.9	0.7	0.1	0.4	0.6
Flood	0.3	0.2	0.3	0.1	0.4	0.2
Burglary	0.0	0.2	0.1	—	—	0.1
Employees' Fraud	0.1	0.1	0.1	0.1	—	0.1
Strike	0.2	0.1	0.0	0.2	—	0.1
Other	0.1	0.5	0.3	0.1	0.5	0.3
REASON UNKNOWN	0.4	0.3	0.7	1.6	2.4	0.9

While the percentages in the broad categories of apparent causes of failures (Neglect, Fraud, Inexperience, and so on) add to 100 per cent, the sum of the specific causes may exceed the total for the category because some failures are attributed to a combination of specific causes.

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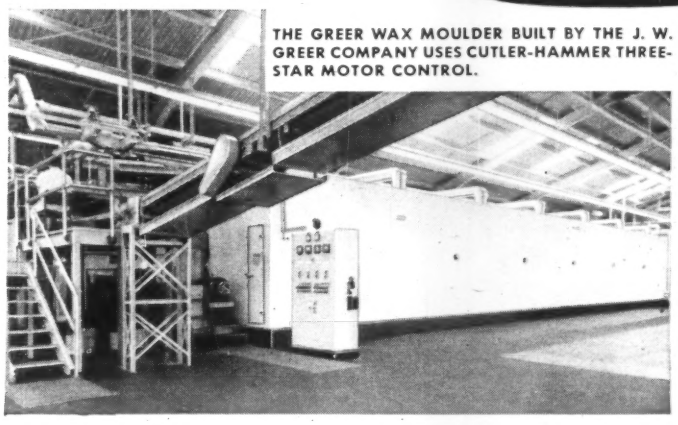
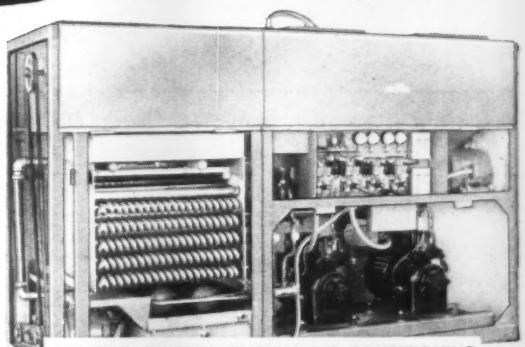
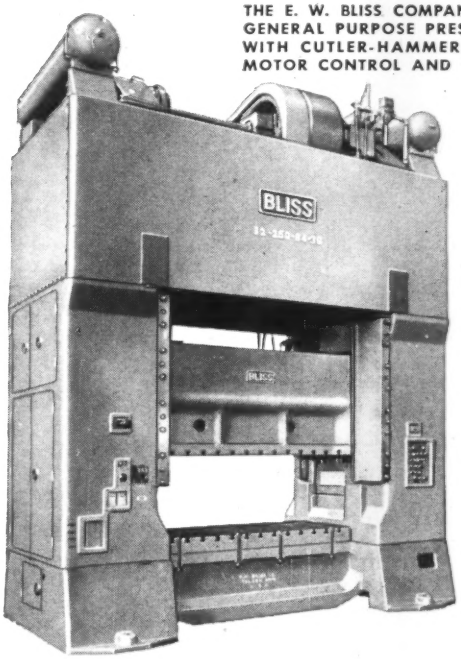


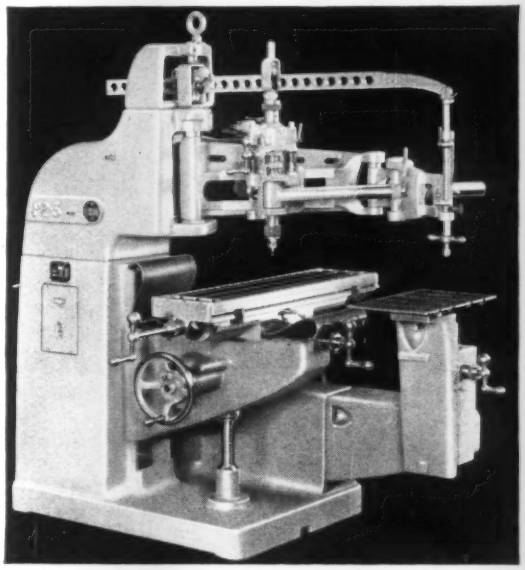
THE GREER WAX MOULDER BUILT BY THE J. W. GREER COMPANY USES CUTLER-HAMMER THREE-STAR MOTOR CONTROL.



THE DRK CENTRAL STATION AIR CONDITIONING UNIT BUILT BY THE UNITED STATES AIR CONDITIONING CORP. USES CUTLER-HAMMER THREE-STAR MOTOR CONTROL.



THE E. W. BLISS COMPANY'S 250 TON GENERAL PURPOSE PRESS. EQUIPPED WITH CUTLER-HAMMER THREE-STAR MOTOR CONTROL AND ACCESSORIES.



THE GORTON P2-3 THREE DIMENSIONAL PANTOGRAPH AND DIE MAKING MACHINE BUILT BY THE GEORGE GORTON MACHINE COMPANY. EQUIPPED WITH CUTLER-HAMMER THREE-STAR MOTOR CONTROL AND HEAVY DUTY OIL-TIGHT PUSHBUTTONS.

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In recent years, more and more leading builders of all types of machines have adopted Cutler-Hammer Three-Star Motor Control as their standard original control equipment. The stars are *everywhere*. So marked a trend cannot be ignored. Any machinery buyer will find Cutler-Hammer Three-Star Motor Control a reliable guide to greater value and satisfaction. Now more than ever before, Cutler-Hammer is the choice of the Leaders . . . the mark of better machines. CUTLER-HAMMER, Inc., 1436 St. Paul Avenue, Milwaukee 1, Wisconsin. *Associate:* Canadian Cutler-Hammer, Ltd., Toronto, Ontario, Canada.

THE FIRST

Start by looking into these often overlooked conditions which can act as profit drains.

- **Defective incoming materials from vendors**
- **"In-Process" rejection of materials or parts**
- ***Excessive* "In-Process" rework**
- ***Extra* machine set-up time and downtime**
- **High pre-assembly rejection rates**
- **High rejection *after* assembly**
- **Excessive material scrap losses**
- **Inconsistent quality supplied to the customer**

Remember, to Test is to Economize

HALLMARK
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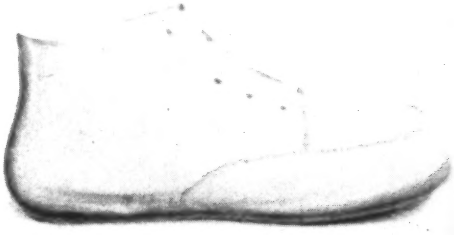

STEP *to increase profits by reduced waste*

CAN BE THE EASIEST

If you're trying to meet the squeeze on profits, look first in your own plant. High reject level, substantial scrap losses or rework, and excessive machine down-time, are all drains which affect profits directly.

Nondestructive tests are an effective means of protecting healthy profit margins. Many manufacturers profitably employ these test methods to attain both consistent production economy and quality. If you believe that your production operations could be improved through better control, then the first step is truly the easiest! Call in the Magnaflux engineer.

The M Test Systems can be used at all stages of "in-process" operations—to pinpoint defects in materials and processes early in production—and to eliminate their cause and added cost. Before you consider raising prices or major plant revisions, consider proven Magnaflux systems.

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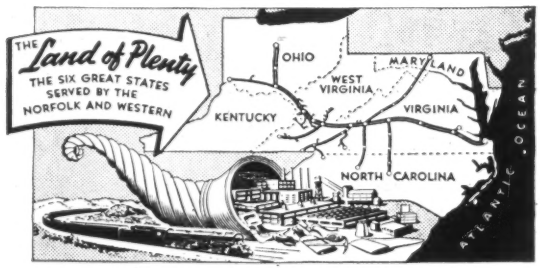


HIGHLIGHTS *and sidelights*

comment by

Hanesta R. Gardner

The shape of things to come?

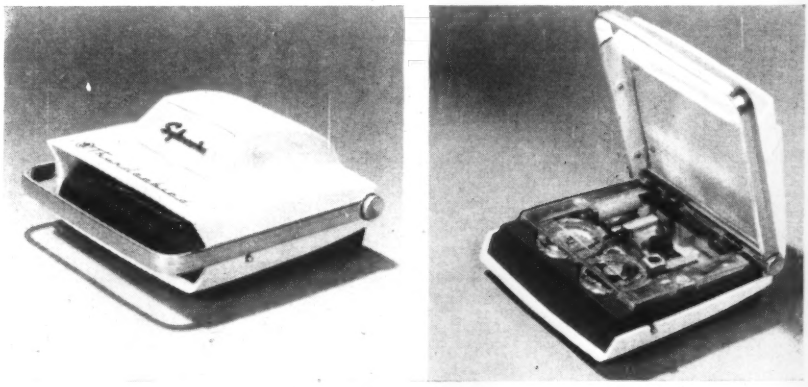
While home appliances carry the straight-and-simple line to the point of boxiness (see January, page 16), another group of products is taking off in a different direction. "Taking off" is the word for it. They have the mobile, pointed look of birds in flight. This year's autos are a prime example, but by no means the only one.

The Sylvania transistorized radio, pictured below, is aptly named the *Thunderbird*. It is far from box-like in appearance, yet the over-all effect is pleasing. Likewise, Automatic Electric's *Dialaphone* has plenty of curves and angles. The hand crank and operating key are clearly visible; and the housing, while rounded at the corners, is not streamlined. It is up-to-date, though. It's a punched-tape device that dials telephone numbers automatically.

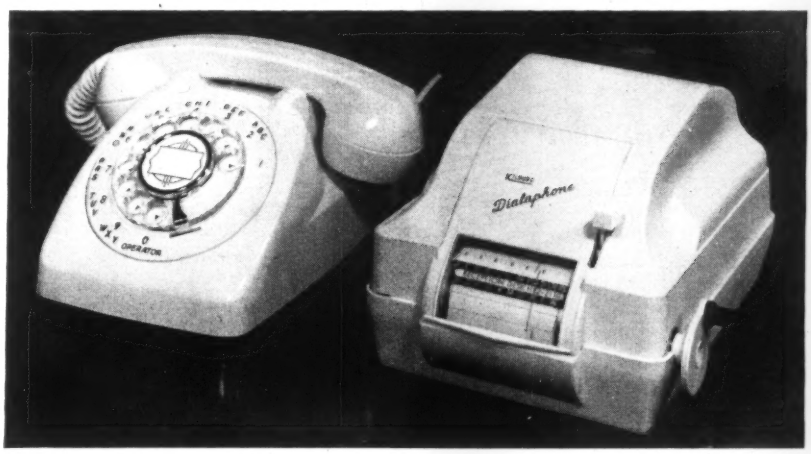
Which trend will dominate next year's products? It's too early to tell, of course, but keep an eye on the "birds" as well as the "boxes."

Color styles are changing, too

In furnishings, turquoise is the shade to watch, according to the color experts. It's gaining popularity in offices as well as homes. The Auto-



Transistorized radio is attractively angular in appearance, has bird-like look.



Automatic dialing device follows new style trends in both shape and color.

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Now rugged Stran-Steel buildings are clad with a look of luxury. With new *Stran-Satin* metal wall you get an attractive rib design and a soft pleasing luster. A wall that is strong and durable, assembled with panels that are longer, wider and easier to erect. In combination with other materials—brick, stone, wood or glass—*Stran-Satin* metal wall gives you limitless variation of exterior decor.

America's newest and finest Rigid Frame buildings can be site-styled, too. They are available in clear-span widths of 32, 40, 50, 60, 70 and 80 ft. and multiples thereof.

Up to $25,000 is available to finance these buildings through the Stran-Steel Purchase Plan. As little as 25% initial investment, up to 5 years to pay.

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57-SS-

"Hey Joe...

WHAT HAPPENED TO ALL OUR OVERTIME?"

Overtime costs more than time-and-a-half. It's a sign of hurry, and when work is hurried, mistakes creep in and standards slip. Overtime also indicates unmet schedules, and that can mean unhappy customers and business lost. But overtime in the cleaning department doesn't happen when you have Wheelabrator® airless blast cleaning equipment. Its speed and efficiency are slashing cleaning costs in thousands of modern plants like your own.

For full details, send for Catalog 74-C, Wheelabrator Corporation 831 S. Byrkit St., Mishawaka, Indiana

WHEELABRATOR® *Airless* **BLAST EQUIPMENT**

matic Electric telephone (page 35), for instance, is now available in turquoise as a standard color.

F. Schumacher & Company is featuring this shade in its interesting *Taliesin* line of wallpapers and fabrics for home and office use (see December 1956, page 19).

Kelvinator says turquoise is one of the three top colors in home appliances, accounting for more than 10 per cent of sales, though it was offered for the first time only last year.

In contrast, dawn gray and harvest yellow, quite popular a few years ago, both died on the line last year. Together, they accounted for less than 6 per cent of sales.

The problems of progress

Having trouble getting semi-finished materials? Maybe you'll have to blame it on progress.

Heat-treated alloy steels are a case in point.

Officials of the American Steel Warehouse Assn. point out that improved free-machining alloys (lead-bearing and sulfurized), plus improved cutting tools—notably the carbides—make it much easier to work metals after heat treatment. So demand for heat-treated steels is rising and the mills are hard put to keep up with it.

This is by no means the only case in which a material is hard to get because there's a shortage of fabricating or finishing equipment, rather than of raw material supply. It's an important point to check whenever the cry of "shortage" is raised.

Make your own?

Machine tools have long been known as "the only machines that can reproduce themselves." But a recent issue of Selas Corporation's *High Gradient* points out that Selas burners are used in Selas kilns to make new kilns that will turn out new burners. And, in the atomic energy field, much work is being done on "breeder" reactors in which neutrons, released as the nuclear fuel is "burned," will create new fuel from material that would not otherwise be fissionable.

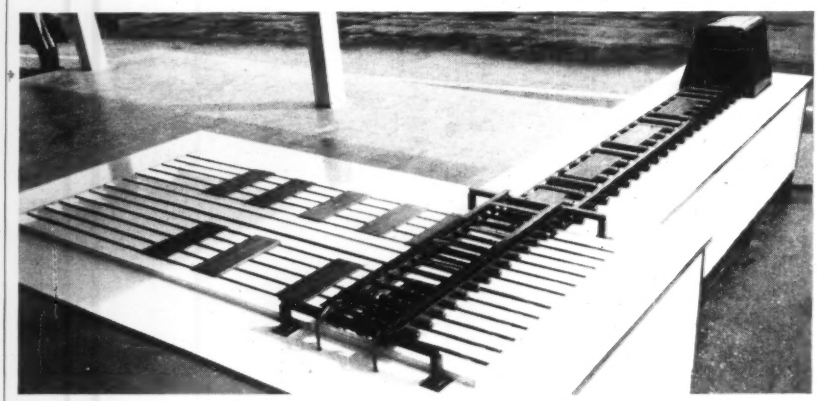
How many other materials and machines fall in this category? Does your product reproduce itself? If so, we'd like to know about it.

Fun to work

If you like mathematical games, you'll want to get a copy of *Fascination in Numbers* from Graham Transmissions, Inc., Menomonee Falls, Wis., producer of hard-surface traction drives. The company also has a new variable speed drive selector that can also be used like a standard slide calculator. Both are free when request is made on company letterhead stationery. —A. R. G.

more highlights on page 38

Magnetic pile-up



From Germany comes news of a machine that lifts and moves steel plate automatically, using the force of a magnetic field to hold and stack the metal. According to the manufacturer, the magnetic field is strong enough to lift the sheets, but not so strong that it keeps them from travelling on the magnetic rollers. In the model pictured, the roller line in the foreground piles up the desired number of sheets and throws them off on the cross-wise conveyor (here represented by wood slats).

NUMBER 6 OF A SERIES

American Can Company . . .

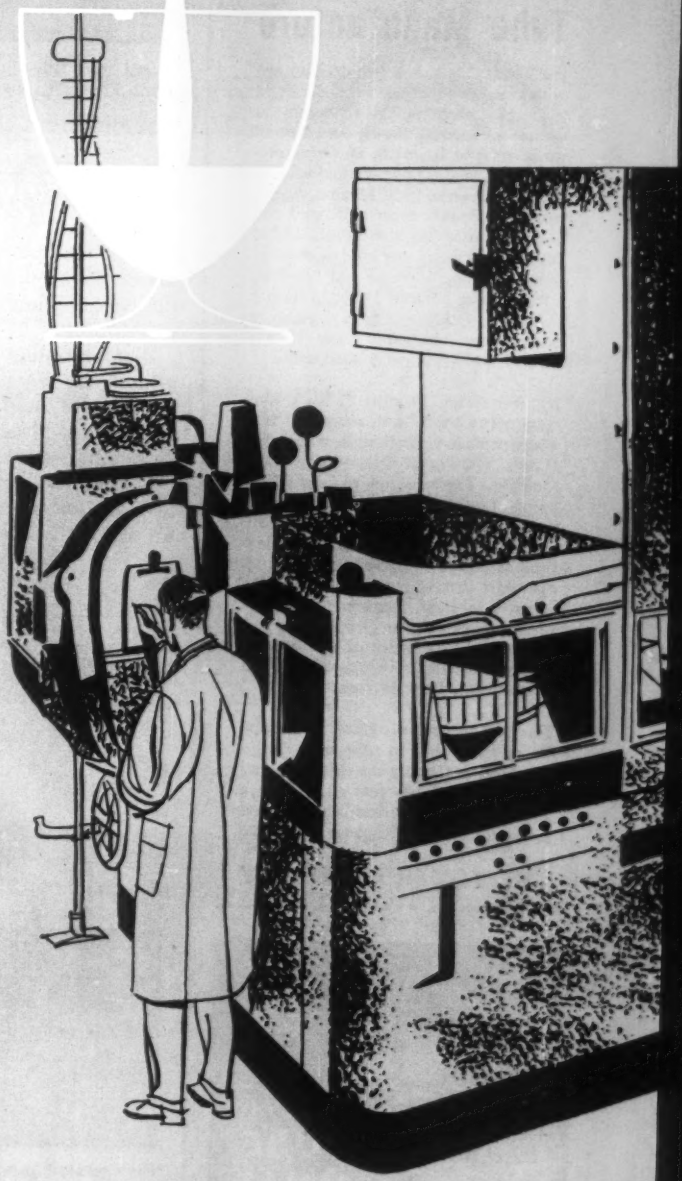
a case story

HOW STANDARD OIL SERVES AN INDUSTRIAL CUSTOMER

American Can Company manufactures wax-coated milk cartons at one of its Maywood, Illinois, plants. Standard Oil is one of the largest producers of wax in the Midwest. Standard's refinery, where wax is made, is less than 30 miles from CANCO's Maywood plant. This means sure, uninterrupted flow of materials for CANCO. And Standard Oil men with special training in serving industrial customers, provide technical service to CANCO. Wax is one of the many products of petroleum refining these men are equipped, through training and experience, to sell.

In another installation in Maywood, CANCO maintains a motor vehicle garage. Standard Oil men with special automotive training and experience provide technical service to CANCO there. At a CANCO plant in St. Paul, Minnesota, Standard industrial lubrication specialists made a lubrication survey recently. With the help of this survey, CANCO plant management was able to plan the most economical means of lubricating equipment.

This is the sort of service Standard Oil renders to many other American Can Company installations in the 15 Midwest and Rocky Mountain states. Standard Oil men would like to serve you. Telephone any of Standard's 23 division offices for their help. Or write Standard Oil Company, 910 S. Michigan Avenue, Chicago 80, Illinois.



STANDARD

STANDARD OIL COMPANY
(Indiana)

CHILE	COLOMBIA	PERU	ARGENTINA
SPAIN	PORTUGAL	SO. AFRICA	SWEDEN
ISRAEL	JAPAN	BELGIUM	MEXICO
INDIA	AUSTRIA	BRAZIL	CANADA
ITALY	GERMANY	URUGUAY	ENGLAND
DENMARK	FINLAND	FRANCE	U. S. A.

24 NATIONS UNITED...

on Choice of Yoder Mills for Pipe and Tube Manufacture

It all started less than two decades ago with the introduction by Yoder—and the rapid adoption by American industry—of a revolutionary new type of mills for cold forming and electric-resistance welding of pipe and tubing. England, France, Italy, Mexico, Argentina, and Brazil soon followed the U.S.A. in adopting these mills. Other countries boasting any kind of modern metal working industry did likewise, even including distant Japan, India and South Africa. Production, depending on requirements, varies from 25,000 up to 75,000 feet per 8-hour shift.

●

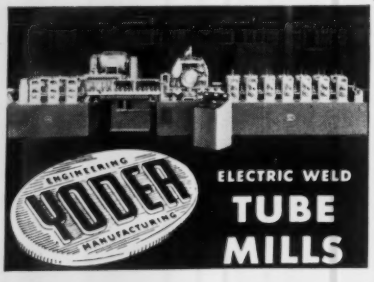
By this time, England, Italy and Argentina each have a total of ten Yoder mills in operation; Brazil, eight; Mexico, six; France, five; other nations somewhat in proportion to their population. In many nations, Yoder mills now supply from 50% to 90% of all welded tubes used. Several oustanding production records have been scored by operators in foreign countries, most recently in Italy. Reasons: the simplicity of design, ease of operation and dependability of Yoder mills. Secondly, generous assistance rendered by Yoder in training operators everywhere.

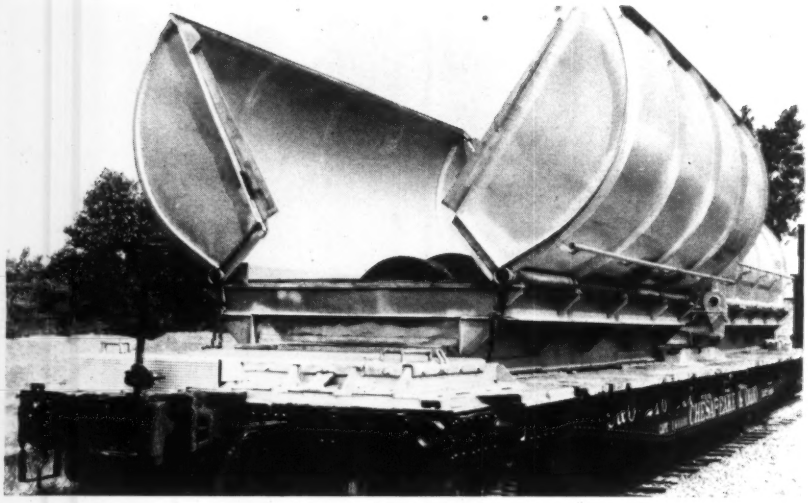
●

Through technological advances, Yoder leadership in tube mill design has been jealously maintained and strengthened from year to year. Ask for literature giving details of the latest improvements. Correspondence invited.

THE YODER COMPANY

5531 Walworth Ave. • Cleveland 2, Ohio, U.S.A.





Coiled steel rides in style in this new *Coil Car*. It holds coils up to 7 feet in diameter. Evans Products, the producer, says it can be opened by hand crank in less than a minute.

New ideas to ride the rails

Steel coils on the half-shell, bulk materials in the half-car, and new plastic car liners promise big savings in shipping.

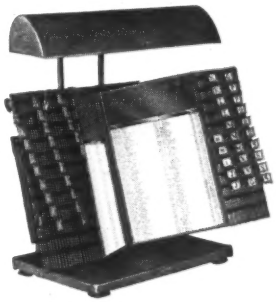
The shell-like container (above), which can be manipulated by one man, is designed to eliminate expensive dunnage and shrouding while protecting steel coils from impact and weather.

The Convert-A-Frate (below) is an unusually lightweight refrigerated box, built of plastic "sandwich" sections (a layer of balsa wood sandwiched between *Scotchply* glass fiber reinforced polyester panels). It can be handled by crane or fork trucks, shipped by trailer or flat car.

Glass-reinforced plastic is also used as a lining material for rail cars. Easily fastened in place, it protects boxcar walls from wear and impact; can be wiped clean with a damp cloth. Continental Can supplies it.

Refrigerated products move to market in lightweight, easy to handle *Convert-A-Frate* plastic-balsa wood container that provides mechanical strength and thermal insulation.

INSTANT REFERENCE with ACME VISIBLE FLEXOLINE



Year after year more businesses are buying ACME FLEXOLINE to save reference time on hundreds of different kinds of records.

Listings are typed on scored FLEXOLINE sheets, separated in strips and filed just where they belong. New strips are quickly inserted . . . obsolete strips removed . . . the list is always up to date.

FLEXOLINE record equipment provides for a few hundred, or hundreds of thousands of individual records. Let the Acme man show you how FLEXOLINE can serve you . . . or mail coupon for illustrated literature.

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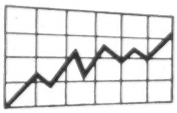
Goebel, Arthur M	HA 4 6732	1674 Grand	Seattle	Wash

CREDIT AUTHORIZATION

ADDRESS	NAME	AUTHORIZED	LIMIT
1722 Naples St	Davis, W L	Mr & Miss	C-3
4465 Kenmore Ave	Eggers, Joseph	Mr	A-2



PRICE RECORD

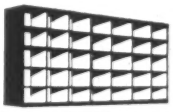
CAT NO	ITEM	UNIT	LIST	JBR	DLR	BRANCH
534-65	Tube, Glass ¼"	Ft	.35	.20	.30	.18
534-66	Tube, Glass ½"	Ft	.40	.25	.35	.23

BADGE NUMBERS

NO	NAME	DEPT	LCKR	FL	BLDG
1654	Simner, Berney	169	1456	3	18
1655	Barber, Wm M	113	1273	2	29

SENIORITY LISTINGS

NAME	DEPT	JOB CLASS	PLANT	DEPT
Williamson, George N	45	Mach Opr	11-11-45	12-16-48
Juergenson, Walter	45	Mach Hlpr	11-23-46	12-23-48



BIN LOCATIONS

PART NO	NAME	BLDG	AISLE	SECTION	BIN	PRICE
CX 138597	FUSE 2 Amp	1	F	12	1	1.15
CX 142303	BULB Lamp	2	A	8	3	1.50

SHIPPING

CONNECTICUT	
Branford	Wilson to Richmond c/o McLean
Centerbrook	Smith to Baltimore c/o Associated Transp

B-357

ACME VISIBLE RECORDS, Inc., Crozet, Virginia

☐ We are interested in Acme Visible Equipment for _____ records.
KIND OF RECORD

☐ Have representative call. Date _____ Time _____

☐ Send us more information and literature on FLEXOLINE.

Company _____ *Attention* _____

Address _____

City _____ *Zone* _____ *State* _____

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There's more to a chunk of coal than meets the eye.

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To unlock the riches of coal, many people work together. Men who mine the coal. Manufacturers who build machines and safety devices that increase coal production. Research men who, day by day, develop new coal by-products. And there are bankers too.

COAL CASH

Bank loans provide ready cash for mining and delivering the coal that powers industry, generates our electricity, and keeps the home fires burning. Bank financing helps export millions of tons of coal to nations all over the world. And bank loans back the conversion of coal into countless products.

YOU WIN

In the coal industry, as in almost all business, large or small, bankers are at work. Their services and resources are available wherever they can help most to stimulate growth and productivity.

The Chase Manhattan Bank of New York, leading lender to U.S. industry, is proud of the contribution commercial banks are making to the well-being of the entire nation.

THE
CHASE
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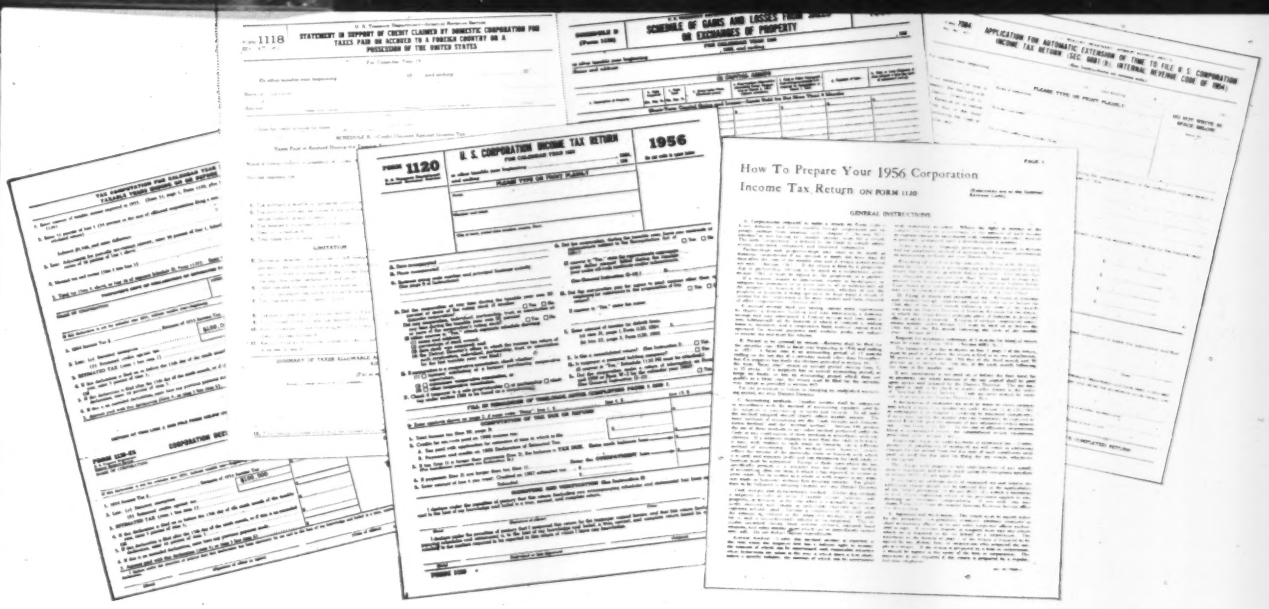
MEMBER FEDERAL DEPOSIT INSURANCE CORPORATION

(One of a series of advertisements appearing in New York City newspapers)


1118
STATEMENT IN SUPPORT OF CREDIT CLAIMED BY DOMESTIC CORPORATION FOR TAXES PAID OR ACCRUED TO A FOREIGN COUNTRY OR A POSSESSION OF THE UNITED STATES
SCHEDULE OF GAINS AND LOSSES FROM SALES OR EXCHANGES OF PROPERTY
APPLICATION FOR AUTOMATIC EXTENSION OF TIME TO FILE U.S. CORPORATION INCOME TAX RETURN (SEC. 6081(b), INTERNAL REVENUE CODE OF 1954)
FORM 1120
U.S. CORPORATION INCOME TAX RETURN
1956
How To Prepare Your 1956 Corporation Income Tax Return ON FORM 1120
GENERAL INSTRUCTIONS

Is Your Company Overlooking

TAX ADVANTAGES IN MANAGEMENT DECISIONS?

WILLIAM J. CASEY

In his attempts to minimize your company's tax burden, your accountant can work only within the framework you have built. Management policies and decisions all along the line may increase or decrease the tax liability—or postpone it and enable you to hold more working capital for a longer time. While it's too late to reduce the 1956 tax bite in this way, here are some facts that may lead you to tax-wise decisions in the future.

A SUBCOMMITTEE of the House Ways and Means Committee has been working for months in an effort to determine the impact of Federal tax policy on the national economy, and has enlisted the aid of scores of private economists, tax lawyers, and accountants to this end. The aim of this soul-searching is remedial legislation in the many areas where normal business and healthy growth are curbed by the peculiarities of a tax structure that has grown piece by piece in response to alternate cries for revenue and relief over a period of more than four decades.

Unfortunately, the present cry for revenue and the sheer size of the task of reorganizing the structure are such that we shall have to live—at least for a considerable time—with whatever impediments the Federal income tax places in the way of national economic growth. But there are a great many things the individual business can do to control the tax impact on its own operations.

Indeed, this has become a competitive necessity. The 52 per cent rate on corporate income in excess of $25,000, and the still higher rates that may apply to individuals, have, to some degree, converted our economy from a profit-motivated apparatus into one substantially tax-motivated. Opportunities to avoid or postpone the loss of better than half the earnings from business and personal effort have been specifically granted by Congress and the courts in many areas, and alert business men naturally make use of these decisions to gain competitive advantages over their less informed brethren.

These opportunities are so many, they are frequently so technical and complicated, they impinge on so many areas of business policy and operations that each business should conduct a regular tax check-up covering all major policies and operations.

Sometimes tax may be avoided entirely by taking earnings in a nontaxable form or by handling costs of doing business in a manner that will

make them tax-deductible. For example, a company may put the use of land on a rental basis and charge off the cost. If it bought the land, the cost of its use would have to be capitalized and could never be depreciated.

Sometimes it is possible to have income taxed at more favorable rates. For example, dividend income is taxed to a corporation at only 4.5 to 7.8 per cent, while an individual may pay as much as 87 per cent. More frequently, a cut in tax rate is sought by qualifying a transaction as one resulting in capital gain rather than ordinary income. Or the cost of money may be made tax-deductible by paying it in interest charges; servicing the same amount of money with dividends on preferred would give a corporation no commensurate tax benefit.

Frequently, all that can be accomplished is a postponement of tax, but this can be important in many ways. It always keeps money at work in the business rather than in the hands of the tax collector. It may throw taxable income into years when the tax will be smaller—either because rates have been reduced or because the corporation's earnings or lack of them brings it into lower brackets. Sometimes there will be a permanent postponement, which has the same effect as a full saving for all practical purposes.

To illustrate: Many corporations have changed their method of handling vacation pay by committing themselves to give employees in service at the end of the year a specific amount of time off during the following year. This permits immediate accrual of pay for the vacation time so committed. Thus, in the year of the change, it is possible to deduct payroll for that year's vacation period, plus an estimate of the payroll for the vacation time to which the company is committed the following year. Then, in the next year, the corporation gets a comparable deduction for the year following that. Thus this type of saving effects a permanent postponement of tax and permanently increases the working capital of the business.

Other types of postponement, such as placing the sale of specific company assets on the installment basis, merely save the business from paying tax on paper profits by deferring the obligation to meet the tax liability incurred until cash is received.

In setting policy goals for a corporate enterprise today, these considerations are paramount:

1. Stockholders prefer long-term growth, which is untaxed and can be cashed in at capital gain rates, to high current dividends, which are heavily taxed.

2. The competitive advantages in large-scale manufacturing, advertising, and distribution create a psychology of "grow or die."

3. Fear of depression and the tendency for recurring waves of recession to hit different industries at different times have created an urge to diversify.

4. The survival needs of a business call for larger and larger amounts of cash to keep up with inflation in costs and prices.

5. Executives capable of coping with our complicated modern economy must be attracted, developed, and retained.

All these policy goals are emphasized by tax factors, and tax factors can be utilized to achieve them.

Expanding with Tax Dollars

Take corporate policy on research and development expenditures and advertising and promotion expenditures. Outlays of this character, successfully handled, produce important capital value in the form of future earning power — achieved through better-known trade names, good will, patents, secret formulae, and so on. Yet their net cost to the corporation is in 48-cent dollars, while the kind of earning power that comes from increased plant and equipment must be purchased with 100-cent dollars on which the tax cost can be recovered only over the life of the asset.

Money spent for research and development may be charged against current income or capitalized and amortized over a period of five years. The latter course may be desirable for a company that is incurring heavy research expenditures in relation to its current earnings and betting on a sharp increase in earnings later.

Growth and Diversification

One of the most rapid methods of achieving corporate growth is by the acquisition of other companies. Here, tax factors are working to induce the owners of family corporations to allow their companies to be acquired; frequently, also, tax factors are making things easy for the acquirers. The owner is likely to be in a position where any dividends he takes out of the business will be heavily taxed. His financial adviser has probably told him that there will be a heavy cash liability for estate tax on the value of his business when he dies. If he sells the business, he can get the surplus that has been accumulated in the corporation and the discounted value of future earning power at a capital gains rate. If he is willing to take the stock of the acquiring corporation, he may be able to get marketable securities without paying even the capital gains tax unless and until he sells those securities in order to diversify his position. If he holds the securities of the acquiring corporation until he dies, there will be no capital gains tax. Some sellers have succeeded in getting an immediate diversification of their investment position without even paying a capital gains tax. The owner sells the assets of the corporate business, converts it into an investment company, then merges it into a mutual fund.

The acquirer may have several methods of paying part of the acquisition cost in tax savings. For example, Glen Alden, Textron, and Botany Mills have a big loss carry-forward. When they buy a profitable company, all its pre-tax earnings are available to recover the purchase price until the loss is absorbed.

The effective cost of acquiring another business may be sharply reduced by future tax savings made possible by its financial structure if it is properly merged. It may have an unused operating loss sustained in prior years; then fresh cash may be generated by applying that loss to the earnings of the purchaser. Or the newly acquired company may be preserved so that future earnings made possible by the new management will generate cash out of tax-free earnings.

If the newly acquired company has physical assets carried on its books at a figure higher than present value, the acquiring company can work out a cash refund on its acquisition cost by realizing the loss. In another situation, the purchase price may be properly allocated to assets of the acquired business having a short life, but critical to its earning

continued on page 73

HOW TO GAGE EXECUTIVE POTENTIAL

Though selecting an executive is still pretty much a matter of judgment, industry can increase its batting average by making use of the tools so far devised. Just because there is no completely scientific way of measuring one candidate against another is no reason for neglecting the aids research has developed. A company can make costly mistakes waiting for the perfect system.

MILTON M. MANDELL
Chief, Management Testing Unit, U.S. Civil Service Commission

"ALWAYS GRAB a top man when you can," commented one of the 463 company presidents who participated in last year's third annual survey by the Young Presidents' Organization. "The right spot for him never fails to turn up soon."

A number of the other young presidents blamed themselves for failure to hire outstanding men when they were available merely because no suitable openings existed at the time. In a summary of the 1955 YPO survey, Lyle Spencer wrote, "More than a third of all presidents said that the worst mistake they made last year and the one that hurt their company most was either having a man in a key spot who did not fit or their failure to get one who did."

According to Spencer, "Finding, training, and motivating key executives is, in several respects, the thorniest and longest-lasting problem a president faces."

Yet systematic selection is less common at the upper levels than down the line. In many companies where clerical, secretarial, sales, and production help are carefully chosen through batteries of tests and interviews, the top jobs are filled by guess, by gamble, and by hunch—this despite the fact that the importance of the jobs justifies greater expenditure of time and money.

One of the chief difficulties in executive selection is defining the qualities the executive needs to play his many roles. Reporting on one large-scale survey of the selection process, Robert K. Stolz wrote, "One company claims that, if the standards implied in its appraisal forms had been applied to its top management group when these men were on the way up, the strongest of them would probably have been forced out of the company."

While there are many good executives, there are no perfect executives.

Stolz has also pointed out that "most successful executives are curious combinations of great strengths and great weaknesses . . . But they certainly are not people who have nothing wrong with them, nor are they people who always get along with others."

It is beyond human capacity to play brilliantly each of the various roles an executive must assume. How can one man have the sensitivity, maturity, and physical vigor to inspire others; the brain to analyze problems as complex as those facing the nuclear physicist; the persuasiveness to get others to accept his goals and the relaxed attitude needed to teach others; the ability to work fast on some matters and stall on others; the knowledge and talent to be a production wizard, an expert salesman, and a keen financial analyst; the courage (or stubbornness) to make decisions against the advice of "experts" and the flexibility to follow meekly at other times; the self-confidence to know that his judgment is good and the willingness to delegate to those less able and experienced than himself? Where is the man who is outstanding in all these attributes?

But just because the perfect executive cannot be found, it is not necessary to fall into the trap of accepting the mediocrity, the man who has neither outstanding merits nor defects. Realistic executive talent hunting will track down the man who is outstanding in the qualities necessary for the *particular* executive job. The executive who has the essential qualifications may be shored up with strong assistants, by a realignment of duties and responsibilities, and by guidance in his weak areas. The key to sound executive selection is recognizing which qualities are vital to the job and which are expendable.

Defining the Job

Before any executive job can be filled, it must be defined. It is worthwhile to keep four key points in mind in analyzing any top management job. First, every executive has to make decisions—decisions regarding men, organizational structure and procedure, the expenditure of money, and the product—what, when, and how much to do. Second, every top executive has to win the trust and confidence of a variety of men—men over, under, and beside him, and men in outside groups as well. Third, he has to serve as an example in work methods and habits, in communicating, in initiative, and in courage, flexibility, character, cooperation, and fairness. Fourth, he has to mesh the parts of an organization, line and staff, research and operations, outside and inside, and his own line units.

If these are key elements for any executive job, what qualities are to be sought in the man called on to fill one? What is needed are men who are mature and self-confident, who won't waver and duck in an emergency and blame others for their own mistakes; men who do not buck the administrative process but readily adapt themselves to it—to organization, coordination, representation, procedures, and reports; men with enough intelligence to make the right decisions, not merely men with facts or men with analytical ability who can see all sides of a problem but shy away from solving it; men who can express themselves in writing and in speaking; men with wide and far-reaching vision; and men who want success enough to seek it through hard work.

If these basic requirements for any major executive job are kept in mind, the particular needs of the job itself can be pinpointed and weighed against specific company needs. This can best be done through group thinking. One man's judgment is likely to reflect his own path to executive success, his own temperament, and the qualities he needs to make his work easier for *him*. The job will be evaluated more objectively by pooling the opinions of people with different backgrounds, different temperaments, and different needs—people from different line and staff departments. The job should be analyzed as it is today and for what it might become tomorrow. The job should also be analyzed in relation to the strengths and weaknesses of colleagues, supervisors, and subordinates, so that the abilities of the new executive will supplement theirs.

At present, a number of good potential executives are lost to their employers because no system exists to spot them. But this deficiency is not characteristic of all companies. As large a company as Sears, Roebuck, with more than 125,000 employees, uses tests, interviews, and appraisals to discover those promotable to management jobs. And this is a continuous process, not a one-shot operation. A good system for identifying executive potential costs money—but no system at all, in the case of some companies, has made it necessary to buy out other companies, as recent mergers show, mainly to acquire management talent.

Often the area of evalution is too limited—recruits are sought exclusively in the plant or the division. In her recent book, *The Big Business Executive*, Mabel Newcomer reports that utilities and railroads are almost twice as likely to select executives from outside as are manufacturing companies. Railroads and utilities select more than one out of every four of their executives from outside companies, while industrial companies select one executive out of seven from outside. It is a mistake in looking for this rare bird to limit the talent hunt to those near at hand. It is important to open the search to other divisions, other plants, and other companies.

Promotion from within has advantages, but complete reliance on it within narrow channels may mean sterility. Experience shows that morale is not hurt when selection is made from outside if the inside men have had developmental opportunities, if they have been given fair consideration, and if the outsider brought in is significantly superior. Insiders properly object if they have not had an opportunity to develop, if they were discarded on arbitrary

THE AUTHOR • Milton M. Mandell has been responsible for the preparation, installation, and administration of a variety of testing programs. He has served as Chief of the Management Testing Unit, Standards Division, U.S. Civil Service Commission, since 1945, and, in a consulting capacity, has assisted manufacturing companies and utilities in management selection, development, and appraisal. His publications include numerous articles and reviews in management and psychological journals, and two American Management Association research reports, *A Company Guide to the Selection of Salesmen* and *Recruiting and Selecting Office Employees.*

grounds, or if the new man is actually no better than they.

It is easy to overemphasize the need for experience in one's own plant, department, or company. But is the present management perfect? Is it so dependent on one way of life that the company will collapse if the new man needs a little time to learn the ropes?

It is true, of course, that the people who are close to us are the ones we know best, but we know them in their old jobs. How will they act in new assignments? How different are the jobs and the job demands? How much do we tend to gloss over defects in those we like? One of the young presidents in the 1955 YPO survey reported, "Our sales had been declining relative to the rest of the industry. I knew for a long time that the core of the problem was lack of leadership in our sales department. It was the hardest decision of my whole life, but I finally fired my close personal friend who was also my sales manager. This act revitalized the whole organization."

Such decisions take courage. But the crisis that forced so difficult a decision might have been avoided if there had been a program for systematically selecting executives in the first place. Such a system also helps to preserve the talent that may be already hidden within the company. It is a costly mistake to let good men stay buried too long in routine or professional work. They may lose executive aptitude or move over to other companies where their ability will be recognized.

Needed: A Scientific Approach

One business man who was concerned with the problem of executive talent-scouting was Edward R. Stettinius, the late head of U.S. Steel, who said: "Is it not obvious that ways and means must be found to discover and evaluate executives in accordance with pre-established standards? Isn't it at once desirable and imperative that we bring to this problem something of the scientific spirit?"

Many of the men who do the selecting ignore Stettinius' plea for research. Because they know, and correctly, that there are no perfect tests for finding executives, they jump to the other extreme. They ignore the research work of Professors Edward R. Strong and L. L. Thurstone, of military psychologists such as Doctors Henry Harris and Cecil Gibb, and other specialists who have studied ways to identify jobs, define basic qualifications, and select potential executives. Sometimes this *laissez-faire* attitude is related to the feeling that it is better to play it safe and not take a chance on a strong man who has made enemies.

But despite resistance to the new tests and techniques that have been developed for selecting executives, there is progress in their effective use and application. More companies are recognizing the problem of executive selection and tackling it creatively. Also, research on the problem, while constantly emphasizing its complexity, is beginning to indicate the qualifications needed by an executive.

Research by the author, covering 106 executives in five large organi-

continued on page 95

PROJECTIVE TESTS—THESE PROBE THE EXECUTIVE PSYCHE

Thematic Apperception Test

What do you see in this picture? The subject's interpretation of this little scene—and of others equally indefinite or ambiguous—is used by trained psychologists to outline his particular personality pattern.

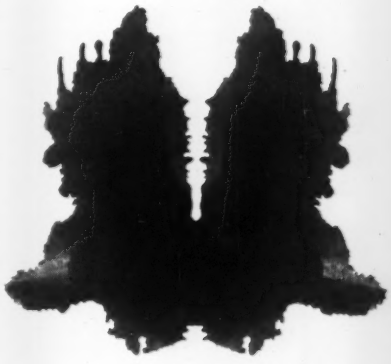
Reprinted by permission of the publishers from Henry A. Murray, **Thematic Apperception Test**, Cambridge, Mass.: Harvard University Press, copyright 1943 by the President and Fellows of Harvard College.

Picture-Frustration Test

Subject is instructed to write in the empty balloon the first words that occur to him as those that might be said by the person pictured. He works as rapidly as possible so that his first association is elicited.

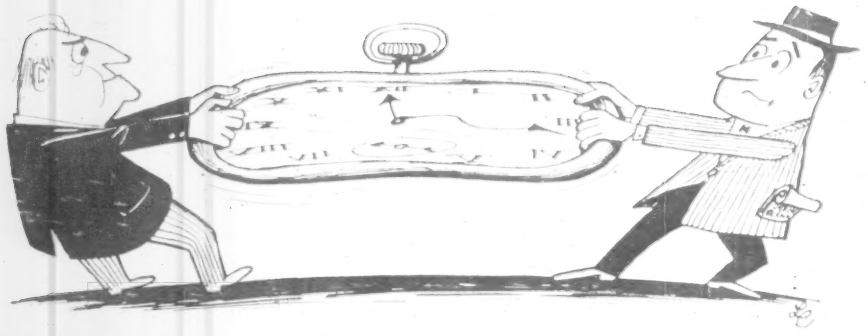
Reproduced with permission from the Rosenzweig Picture-Frustration Study, copyright 1948.

Inkblot Test



Anyone can see pictures in the clouds, or in inkblots. It's what you see that counts. Rorschach testers have used sets of inkblots similar to this on numbers of people, now are able to gage personality from responses.

OF TIME AND THE SALESMAN



Companies are finding new ways to stretch selling time as the "hard sell" appears in most lines.

THOMAS KENNY, *Marketing Editor*

TIME IS MONEY. And when it is budgeted closely like money, companies reduce selling costs.

In most lines, the cost of maintaining the field selling force is the one largest marketing expense. A survey by the Sales Executives Club of New York a few years ago showed that the average sales call cost $17.24. Today it probably costs your company as much as $20 each time a salesman calls on a prospect.

Consequently, the clearest road to reducing selling costs is by increasing the number of sales calls the average salesman is able to squeeze into one working day. One company —Lukens Steel—has upped the total number of sales calls made by its salesmen 70 per cent during the past five years without adding to the field selling force.

Such an accomplishment is necessary today to meet forced-draft competition and also because of the heavy cost-pressure on profits. And by stretching selling time, you help to alleviate the shortage of salesmen (see February 1957, page 133), who are needed now more than ever before to move the mountains of goods produced by the new technologies. A DR&MI survey of a selected group of 30 companies reveals that nine out of ten are getting more selling time—that is, more sales calls—out of a salesman's day than they were five years ago. A salesman may be a wonder at answering objections and closing the sale, but if he doesn't effectively control his available time, he'll have little opportunity to display his talents where they count—face-to-face with the prospect.

How does a company increase the number of sales calls considerably without rushing the salesman so much that he runs in circles? It is being done not by any one sweeping change or panacea, but rather by combining skilfully—as did Lukens Steel—an entire panorama of cost-cutting measures.

Run down this list point by point and see how many of them are already in your own arsenal for your cost-cutting and time-stretching campaign:

Revamp your sales territories

To meet the new era of the hard sell, many companies find that they have to provide their customers with more than just a good reliable product at a fair price. In addition, customers demand more service and more attention to their special problems. This calls for a substantial increase in the selling time spent face-to-face with customers and prospects and corresponding decrease in time spent in travel.

According to the DR&MI survey, the problem is being partly met by making sweeping realignments of sales territories. Smaller territories enable the salesmen to provide more intensive coverage of a larger number of accounts. At Lukens Steel, all territories have been revised since 1951 to locate each salesman within his own marketing area. The proportion of resident salesmen has increased while the number of district offices has not changed. Thus, the resident man can devote his time to selling without bothering about the other problems connected with the operation of a district office. The district office is staffed to back up all salesmen with information on orders and inquiries, relieving him of most of these chores.

Set up branch offices

To get closer to prospects and customers and thus reduce travel time, many companies are opening branch sales offices to follow the shifts in industry (see August 1956, page 52) and the general population and placing their order-seekers in the new branches closer to industry.

The Armstrong Cork Company is getting more selling time out of a working day now than five years ago because, for one thing, it has more resident salesmen. Says R. C. Stabern, director of Armstrong's Bureau of Merchandising: "These are men who live in the principal city in their territories but report to a district manager who is responsible for an area covered by several salesmen. This reduces 'down-time' spent in driving from the district office city to the men's territories."

Relieve the salesman of non-selling functions

Several of the surveyed companies are making systematic efforts along this line. For example, the Worthington Corporation is providing salesmen with more selling time by turning over technical details of the sale to an office engineer. He can talk to the customer by phone and save the salesman's time and, in some instances, a trip.

When territories are too large, salesmen lose time in reaching prospects.

Other companies stretch the field force's selling time by increasing sales research. They not only locate prospects for the salesman, but, in addition, estimate how many calls the prospect merits on the basis of projected sales. In most companies, the digging out of prospects is left to the salesmen, but increasingly they are provided with the latest directories, trade lists, and other sources of information to make the job less time-consuming.

Reduce the paperwork load

Since "too much paperwork" is still the salesman's persistent plaint, many companies are taking a fresh look at how the information salesmen provide in their call reports is being used. Some are finding that much of it is not really needed at all, but is compiled as a matter of course.

The Westvaco Mineral Products Division of the Food Machinery and Chemical Corporation cuts down paperwork time for salesmen by requiring call reports only in unusual situations—when a major change in the status of the account occurs, when new competitive practices develop, or when an initial call is made.

Improve planning of sales calls

In some companies, the scheduling of calls is decided by sales management, but in most companies, the salesmen—who are closest to the field—plan their own itineraries.

At United States Plywood Corporation, the salesmen get more selling time out of a working day with the help of the "Itinerary Call Report." This is a report on planned calls and is filled out before the salesman begins to swing through his territory. The very act of placing plans on paper points up any time-wasting backtracking and idle time that could be used productively.

Time-consuming call-backs are considerably reduced at US Plywood by providing the salesmen with station wagons. This enables them to carry more properties and it saves time in putting on demonstrations, furnishing samples and literature.

Have more selling by phone

In most of the surveyed companies, salesmen are doing more selling by phone now than they did just a few years ago. Of course, there is no real substitute for face-to-face selling. But nevertheless companies are discovering that on some accounts, particularly the smaller ones, valuable salesmen's time can be saved by servicing customers by phone.

Says W. H. Hunt, sales vice president of US Plywood: "Another thing we have done to get more selling time out of a working day is to inaugurate a system of spending a certain length of time in the office telephoning customers. A certain group can be sold just as well over the phone so far as intermittent contacts are concerned. This, of course, enables the salesman to talk to more customers in a given period of time than he could if he were driving from place to place.

Have closer field supervision

About half of the surveyed companies report that they have improved the salesmen's use of time by closer field supervision. Not only are territories being made smaller but more people are entering sales management so that—as at Standard Register, for example—fewer salesmen report to one supervisor.

Demands for too much paperwork from salesmen cut into selling time.

Consequently, salesmen can get assistance in solving sales problems more quickly, and are not bogged down searching for answers management may have at its fingertips.

Says R. C. Stabern of Armstrong Cork: "Our salesmen are getting more selling time out of a working day now than they did five years ago, and one of the principal reasons is that we have more assistant district managers. This makes for better sales management supervision, including guidance in planning and organizing selling effort."

Improve the use of waiting time

In recent years many companies have cut into this idle time considerably by making selling by appointment a matter of policy. Nevertheless, there is always some unexpected and avoidable waiting time.

When salesmen schedule their calls haphazardly, they lose selling hours.

When Armstrong Cork salesmen have to wait to see dealers, they use the time to set up or improve product displays or to pass along product information to the retail salesmen. Many wholesale drug salesmen spend this time productively by checking the druggists' stock.

Others who must spend waiting time in purchasing agents' outer offices—where no such useful chores are available—come prepared with important reading or paperwork that they must catch up with.

Run a time study of your salesmen

Only a handful of companies have so far made a systematic study of how salesmen spend their time. But those that have done so report considerable benefits both to the salesmen and to the company as a whole.

For example, the Atlantic Refining Company reports that soon after the completion of its time and duty study, selling costs were reduced almost 40 per cent while sales rose noticeably. It was done by having time-study observers go along with the salesmen on thousands of calls and make a detailed record of actions and results.

Such a study pinpoints the areas of wasted time, evaluates various sales techniques and sales aids, measures the accuracy of sales territories, provides ratios of sales effort to order received, and many other facets of the selling job. However, management should not expect to be able to apply the exact methods of measurement used for in-plant time studies. Much of the selling job is bound up with intangibles and hard-to-measure human relations.

Time studies of salesmen indicate that they spend slightly more than one-third of the working day selling to prospects and customers. Nearly half of their time goes for travel and waiting, while about 20 per cent goes for paperwork.

If your company is planning such a time study, you'll find helpful information on the techniques involved in *Increasing Wholesale Drug Salesmen's Effectiveness* by J. U. Davis (Columbus Bureau of Business Research, Ohio State University, Columbus, Ohio).

Continue sales training

In many companies, sales training is no longer confined to the newcomer—the traditional "trainee." Instead, it is now an integral part of the sales management program.

Salesmanship is becoming increasingly systematized and "scientific" to keep pace with the growth of plant technology. Consequently, continuous training and retraining in the light of new markets and methods is mandatory to improve sales efficiency and stretch selling time.

Listen to G. S. Younkin, vice president and general sales manager of the Minneapolis-Honeywell Regulator Company: "Our salesmen are definitely getting more selling time out of a working day now than they did five years ago. There are a variety of measures that have brought about this improvement, but I feel that all stem from a common program . . . to insure the continuous development of more effective salesmen and sales managers."

Create a time sensitivity in salesmen

One company says that "our most effective control method to make sure that salesmen's time is not being wasted is the constant and close supervision of our salesmen by their managers."

However, it is scarcely economical to spend time—and more expensive time at that—in order to save the salesman's time. But such an unhappy situation may develop if the most essential step is not taken—the creation of an awareness of time's importance in the mind of the salesman.

According to H. G. Harris, general sales manager of the Pabst Brewing Company, "The best way to save time is to have the salesman *want* to use his time for the best possible results. It is impossible for management to follow each man around directing him; consequently it is important to train and cause the man to think and analyze as management does."

Waiting time needn't be wasted if salesmen bring along required reading.

It is true that companies are relying increasingly on supervision to boost selling time. But the most effective supervision is that which aids, guides, and inspires but does not attempt to control that individualistic specimen—the American salesman.

Checklist for Saving Selling Time

Have you eliminated these time-wasters in your sales force?

- ☐ Late starts from the office.
- ☐ Neglecting those unusual customers who are in their offices before 9 and after 5.
- ☐ Calls on friendly accounts that do little but bolster the ego of your faltering salesman.
- ☐ Territories that are too large and take too much travel time.
- ☐ Excessive trips back to sales headquarters.
- ☐ Calls on small marginal accounts which could be covered almost entirely by phone.
- ☐ Repeated call-backs on companies that have little business to offer.
- ☐ Detailed call reports that give more information than sales management really needs.
- ☐ Poor routing of sales calls, resulting in salesmen's jumping back and forth from one side of town to the other.
- ☐ Failure to make appointments with prospects, resulting in excessive waiting time.

Weichert Photograph from Devaney

PLANT LOCATION

Hindsight is often better than foresight—in plant location as in anything else. The experience of companies that took too much for granted can enable others to avoid the same expensive mistakes. Here they offer pointers to those whose moves are still in the planning stage.

LEONARD C. YASEEN

EVER in its history has American industry moved as much and as fast as in the 1950's. The industrial map of the United States is changing almost from day to day. Between 1947 and 1955, manufacturing employment in the three Pacific Coast states shot up 54.7 per cent. In the same period, the states of New York, Pennsylvania, and New Jersey—the heart of the "industrial Northeast"—gained only 2.4 per cent in manufacturing employment. New England's figure actually dropped by 3.4 per cent. America is currently spending about $38 billion a year on new plants and equipment. About 96 per cent of the new plants are being located away from metropolitan areas, formerly our traditional manufacturing centers.

Industry's march to new sites has created new and unprecedented problems for American executives. While thousands of companies have discovered that they can realize substantial production savings by locating their plants in small communities, they have had to face the fact that they must pick the *right* community or they may lose millions of dollars, even endanger their entire operations.

In a survey conducted during the past three years, more than 1,000 major industrial firms have been asked: "Has your new plant location been completely successful and, if not, what have been the most important contributing factors?" Their frank answers to this question can be compressed into a list of the ten most common and costly mistakes.

WHERE DID THEY GO WRONG?

Unforeseen difficulties and pitfalls may more than offset the apparent advantages of new plant locations—as some companies have learned to their cost. These are the principal mistakes made by those whose moves have not worked out as they anticipated:

1. Miscalculation of labor costs
2. Choice of site where the labor reservoir is inadequate
3. Neglect to anticipate growth
4. Carelessness in checking the site
5. Lack of distribution know-how
6. Failure to predict the impact of the new plant on the community
7. Neglect to check on supporting facilities
8. Reliance on misinformation on utility costs and problems
9. Underestimating the importance of taxes
10. Failure to recognize cost relationships

Miscalculating labor costs

More manufacturers mentioned miscalculation of labor costs than any other factor. Some labor-oriented concerns, in fact, had moved from their new locations because they had placed dependence on *average* hourly rates. A number of company investigators developed wage-rate data for comparative skills and job occupations but neglected to assess the effect of local fringe benefits, which ranged from 6 to 47 cents hourly. Some concerns inquired about incen-

tive systems affecting wage rates, but few took into account the relative differences in workweek, overtime patterns, turnover, absenteeism, productivity, and attitudes reflected in man-days lost in strikes and labor disturbances.

Inadequate labor reservoir

Perhaps one of the most difficult factors to measure is the availability of that precious commodity—people. A surprising number of executives interviewed admitted that the very existence of their companies had been jeopardized by lack of a suitable labor force to man their plants. In extreme instances, new operations located in resort areas or adjacent to high-paying seasonal industries have been forced to close down. Forceful chamber of commerce efforts to attract new payrolls have created, in other cases, situations where one new plant competes with another in a dwindling labor market. Assumptions that labor will commute to highly paid jobs outside the city often prove fallacious. Most companies interviewed apparently have not insisted on a ratio of at least four applicants, permanently and locally available, to every job required, in order to assure reasonable selectivity. At least 50 per cent of all firms interviewed during the three-year period miscalculated the caliber of the labor force available to them. Even though the number seemed adequate, over-age applicants, marginal workers, drifters, and those physically unfit cut qualified workers to a bare minimum.

Failure to anticipate growth

After actual operating experience, industrialists frequently have found that smaller communities offer more favorable conditions than congested metropolitan areas. One company employing 380 people in an electronics operation put the over-all saving on production and distribution costs at 16 per cent, simply by virtue of geographic location. Unfortunately, this concern and many others like it have not recognized future expansion needs and are thwarted by the size of site originally acquired, by encroachment of residential and commercial districts, and by the limited size of water, sewerage, power, and gas lines. Also, location of branch plants has been faulty in relation to need for *future* plants.

Carelessness in checking site

One Eastern company spent more than $750,000 to pile a site in California, then finally abandoned it as economically unfeasible. From a number of reports received, unforeseen costs because of poor subsoil conditions are not unusual. But other problems have plagued executives—too late they have found that utilities must be extended at company expense, that zoning ordinances restrict the use of their land areas, that access roads are inadequate to handle employee and truck traffic, and that expected cooperation from bus lines in bringing personnel to the plant is not forthcoming.

THE AUTHOR • Leonard C. Yaseen has helped more than 1,500 companies, in all types of industry, select sites for plant location. He is senior partner of Fantus Factory Locating Service, and a year ago launched Fantus Area Research, Inc., an affiliate company which compiles scientific studies on areas and prepares programs for their industrial development. The company has already been engaged by the governors of Oklahoma, Iowa, Tennessee, and scores of communities, railroads, utilities, and regions.

Mr. Yaseen is the author of *Plant Location*, a standard text published by the American Research Council. He has also written the plant location chapter for the *Industrial Engineering Handbook*, just published by McGraw-Hill.

Lack of distribution know-how

More than 40 per cent of the manufacturers interviewed have opened regional plants to lower freight costs and insure better customer service, and almost a third of this number admit serious mistakes in judgment because of failure to make a complete investigation. No less than 17 companies that have built warehouses have found the available freight "spread" insufficient to warrant the capital outlay involved.

The table shown below is taken directly from a plant location and warehousing study. It illustrates that warehousing is not always desirable or economical.

Three companies have been involved in expensive (and, in two cases, unsuccessful) legal battles before the Interstate Commerce Commission attempting to secure the freight transportation services they *assumed* would be available. The use of a highway in front of the plant by over-the-road trucking firms most assuredly does not guarantee service.

Another common error was the assumption that favorable commodity rates applying at certain points would be available at selected nearby locations. In some cases, this was not true, because of the historic interrelationship between freight rate-making territories. One large company was somewhat chagrined to report that it had unwittingly located outside the free pick-up and delivery zone of a large city. The estimated cost of this oversight is probably in the neighborhood of $40,000 annually.

Local impact of new plant

While not serious for smaller units, the establishment of large plants has introduced complex problems in traffic flow, utility distribution systems, and fire protection. In one case, the transfer of a sizable group of supervisory personnel, technicians, and executives created an absolute shortage of housing, crowded school rooms beyond capacity, and even strained the medical facilities of the selected community. Too frequently, company investigators make only a superficial evaluation of the ability of the city to cope with a huge new plant superimposed on an agricultural or semi-industrial economy.

Lack of supporting facilities

Many non-integrated firms have

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Comparative Transportation Costs	Location of Customers	
	In City Limits	*40-Mile Radius*
Direct LTL from plant to customer	$3.05	$3.05
Truckload from plant to warehouse	2.14	2.14
Local delivery to customer	.44	1.05
Total transportation cost	2.58	3.19
Available "spread" to pay for warehousing costs	.47	—.14

Beyond 40-mile radius penalty increases.

HIS PRODUCT IS A STATE

ROBERT D. STUART
Michigan Department of Economic Development

The free, competitive enterprise system is not limited to industry and trade alone. States, and communities within states, promote their natural and acquired virtues as they compete for factories, branch warehouses, and stores. Selling an area or community is more than a job for a barnstorming politician or commercial evangelist, though there is often need for eloquence in debate when a decision to locate hangs fire. Enthusiasm is one thing, but factual and technical equipment for the job is even more important.

An example of the modern sales specialist for a state's industrial and commercial virtues is Jack Kavanagh, chief agent for the Michigan Department of Economic Development. He sells Michigan to people inside and outside the state, relying on facts rather than high pressure.

ONCE A MONTH, 36-year-old Jack Kavanagh of Lansing, Mich., calls the roll of his nine children, says good-bye to them and to his wife, then heads for the airport.

At this midway point in his career, the one-time college philosophy instructor is still somewhat surprised to find himself firmly entrenched in one of the toughest selling leagues in the nation.

How did he become a salesman?

Kavanagh explains it this way: "I just found a product I wanted to sell." The product is one big package —the State of Michigan. And he is engaged in an economic tug-of-war with agents from at least 43 other states.

In a nation where salesmanship is a key factor in continued prosperity, Kavanagh and his competitors are a unique fraternity. They seek no sales commission or personal profit. The goal is simply to bring more prosperity to their states through new industry.

As chief industrial agent for the Michigan Department of Economic Development, Kavanagh heads a team of four agents who canvass the major industrial areas of the nation in a search for industry prospects.

The question most often posed in this new and unusual field of salesmanship is a logical one: How do you persuade an out-of-state industry to expand or move its operations to your state?

The answer may be found in any salesman's handbook. For Kavanagh it boils down to two main points:

1. "Success in any effort of this kind requires the knack of being in the right place at the right time."

2. "An industrial agent must know his state with the same thoroughness that an airline pilot knows his plane instruments. He must also know the needs of his prospect to the last detail."

Above all, an agent must realize that no industry, large or small, will jump into a new location without a long and exacting study.

With these facts in mind Kavanagh and his agents combine a program of research, public relations, and salesmanship into a neat package designed to meet all needs of the prospect.

Kavanagh caps weeks of planning and research each month with a one-week tour of the Midwest and East Coast areas. "Our objective," he says, "is to make it as easy as possible for the prospect to find what he wants to know in the shortest possible time."

High pressure won't do it; the salesman for a state needs plenty of ammunition. Here Jack Kavanagh tells an industrialist of the advantages Michigan has to offer a plant.

The Sales Ammunition

During alternate weeks at the home office, Kavanagh gathers his prospect list from news reports, magazine articles, and personal contacts. Once a prospect has been sighted, the research program goes into high gear.

A data sheet is prepared covering all needs of the prospect in the light of his specific product and type of operation. Usually it includes specific plant sites available, real estate values, labor supply, taxes, power and water sources, transportation facilities, and nearness to markets.

Next in the planning schedule is the process of obtaining an interview. As a rule, this is no problem for Kavanagh. During his five years with the Michigan agency he has established himself as a familiar fig-

continued on page 122

Ideas for your plant and products

NEW WAYS TO APPLY HEAT

ANNESTA R. GARDNER, *Industrial Editor*

GETTING ENOUGH heat in the right place at the right time is a problem as old as the campfire and as new as atomic energy.

Today, it is a problem with many solutions.

In some cases, the old heating methods—the coal furnace, the gas range, the hot plate, and perhaps even the wood fire—are still the best.

But, in many applications, new flexible electric heaters like those pictured here are getting the nod. That's particularly true where fast heating is required; where size and weight of the heating element are important; where safety requirements dictate use of enclosed heaters; and where close control of temperature is required.

Use of flexible heaters is not limited to special conditions like these. Makers of home appliances, paint removers, branding irons, hand dryers, and a host of other products are adopting these new heating elements because they make it possible to simplify and improve product design at lower operating cost. Original equipment builders—makers of packaging, vacuum forming and bending, and metalworking machinery—are using them because they offer improved performance at lower operating cost.

In dairy and beverage plants, flexible heaters keep syrups and vegetable oils flowing smoothly.

Users of heavy-duty industrial equipment are installing flexible heaters to prevent damaging condensation of moisture in big motors and generators, eliminating the danger of costly shut-downs.

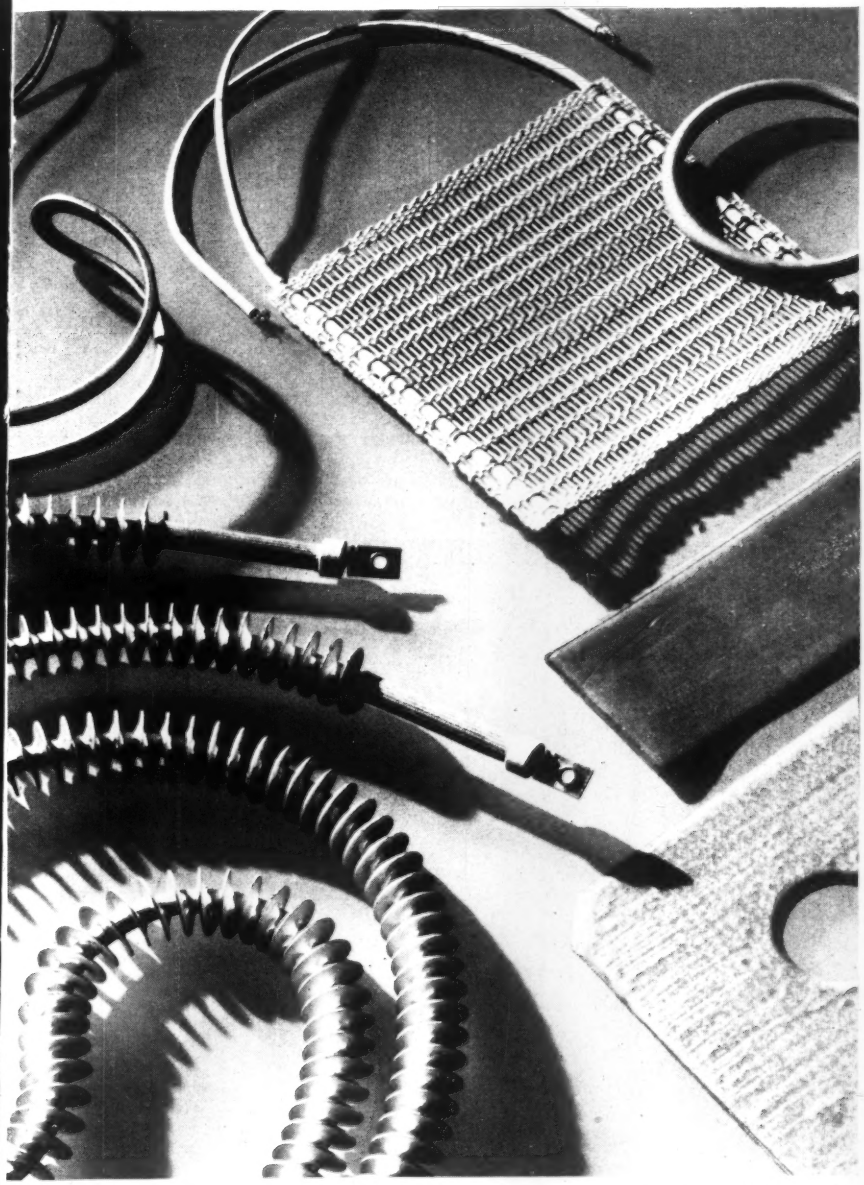
These heating elements are flexible in every sense of the word. They bend to fit the part or product, and they can be made in a wide range of dimensions, and of many different materials.

Flexible heating blankets, for in-

DR&MI Photographs by F. M. Demarest

Flexible electric heating elements come in strip, tube, sheet, and film form; may be made in many shapes, using a variety of materials: metals, rubber, glass fibers, plastics. The items pictured are by Ogden Manufacturing, General Electric, and Cox & Company.

Electrical heating elements that bend to the job are solving a multitude of product design and plant engineering problems. Applications range from paint mixing to packaging. Here's how you can put them to work.



Finned tubing, wire mesh, and flexible blankets can be adapted to fit products ranging from varnish-curing ovens to electronic computers. These samples are made by Edwin L. Weigand Company and Electro-Flex Heat. Following pages show range of applications.

stance, may be made by sandwiching a thin layer of conductive rubber between non-conductive neoprene sheets; by embedding wires in glass fiber-reinforced silicone rubber or neoprene; or by spraying a conductive coating on a flexible base. For service under highly corrosive conditions, the units may be encased in polyethylene or a fluorocarbon plastic.

Thickness of the heating elements ranges from less than 0.015 inch (for sprayed-on conductive coatings) to half an inch or more (for rod and tubular heaters designed for heavy-duty industrial service).

As would be expected, prices also cover a wide range. Silicone rubber blankets may cost $2 a square inch; while electric heating strip and cable for general-purpose home and industrial use is less than half a dollar a linear foot.

Flexible heaters, then, are flexible in application as well as in use. With other types of electrical heating they share such advantages as conservation of space, close control of heating and cooling, and safety. They are often lower in initial cost and less expensive to maintain than liquid or gas heaters.

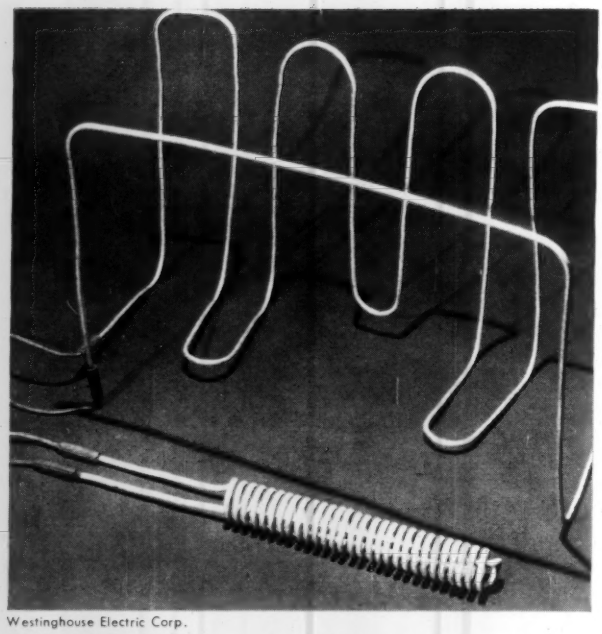
But why use relatively complex and expensive units like those pictured here? Instead of a tubular heater, for instance, why not just install a plain resistance wire and be done with it?

In some cases, a bare wire is preferable. It's cheaper. It's easy to install. It cools off rapidly. But it won't carry so high a load as a tubular heater. It's not so safe. And it needs plenty of protection from accidental damage. That's why even in products where every penny counts, formed tubular heaters are getting the nod.

article continues on page 54

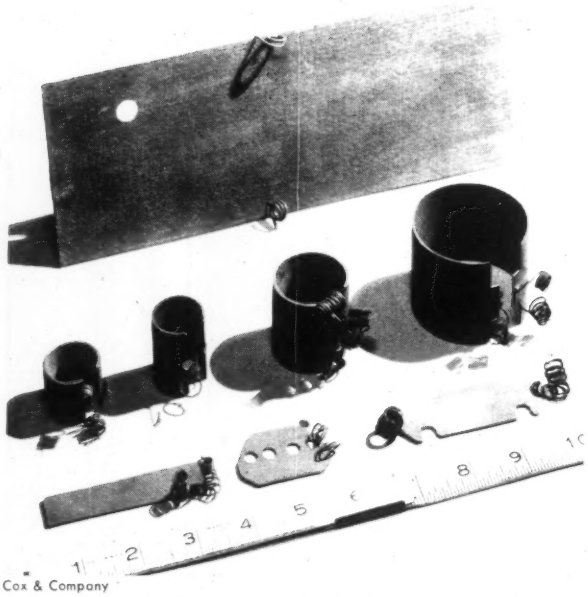
NEW WAYS . . . *continued from page 53*

Built-in-heaters



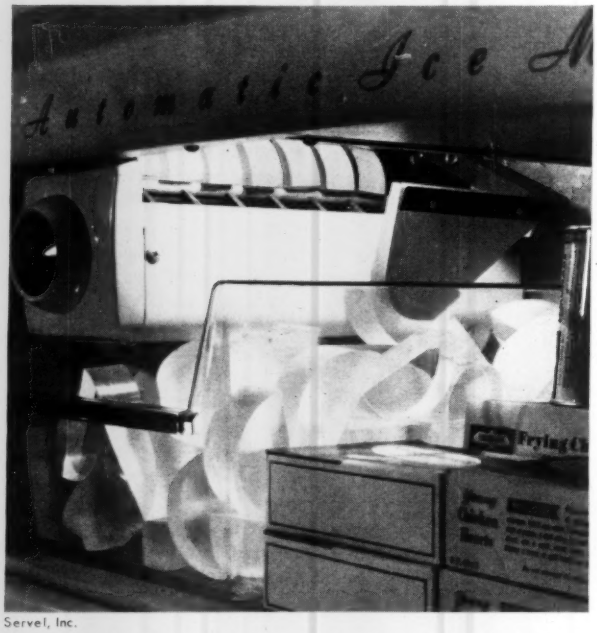
Westinghouse Electric Corp.

Tubular heaters can now be had in lengths up to 25 feet and diameters down to a quarter of an inch—in copper, steel, aluminum, and alloy tubing. They're used in home appliances, air and gas heaters, food processing equipment, metal-forming equipment.



Cox & Company

Sheet-type heating elements can be flexible or semi-rigid. These *Thermolastic* heaters, made by embedding resistance wire in glass-reinforced silicone rubber, are used on airborne electronic equipment. Electrical output ranges up to 60 watts per square inch.



Servel, Inc.

New Ice Maker freezes cubes, stores them in container, and replenishes supply automatically. It has two formed tubular heaters: one to loosen cubes from mold; the other to reset thermostat. A third, on main section of refrigerator, is used for defrosting.

General Electric Company

Electronic towel—a plug-in electric hand-dryer made by Edi Products—has formed tubular heating elements (foreground) cast into heat exchanger (rear). Edi chose these elements because they are long-lasting, take little space, and are inexpensive.

solve product problems

It's always Winter somewhere—up in the clouds . . . down at the Pole . . . in your own refrigerator at home. A surprising number of products have to live under Winter conditions—at least part of the time; and most of them need some outside source of heat, if they're to do their best.

Because flexible heaters provide a clean, convenient way to supply this extra heat with a minimum sacrifice of space and weight, they're finding an increasing number of applications in "ordinary" products as well as in aircraft instruments and other military equipment.

Applications for flexible electric heaters extend far beyond the low-temperature field, of course. They're used in all sorts of cooking equipment, paint removers, pasteurizers and sterilizers, and, as the photographs on pages 56 and 57 show, in a good many types of plant equipment as well.

Heater manufacturers emphasize, though, that it's important to tailor the heating system to the specific job. To do that, it is, of course, necessary to know a good deal about the job conditions. For example:

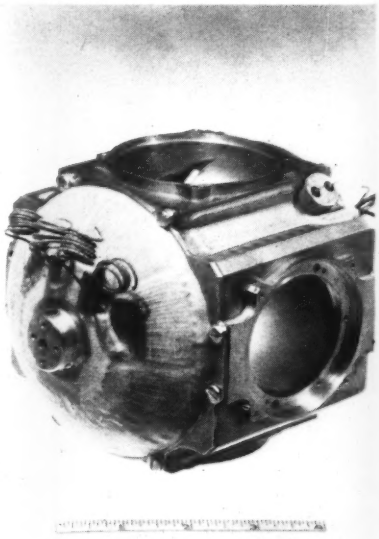
How rugged is the service? Will the heating element have to withstand vibration, abrasion, or impact? Are corrosive conditions likely to be encountered?

What are the weight and space requirements? What are the current requirements? How much time is available for warmup? What temperature must be maintained? Is there a convenient source of electrical power? Will batteries be needed?

If, for instance, the heater itself is required to supply only a moderate amount of heat for short periods, but must be able to stand a wide range of temperatures—say, from minus 65° to plus 350° F—as is frequently the case in airborne electronic equipment perhaps a silicone rubber blanket is the answer.

If, on the other hand, strength, durability, and retention of shape after forming are important, a tubular heater may be the best choice.

article continues on page 56



Cox & Company

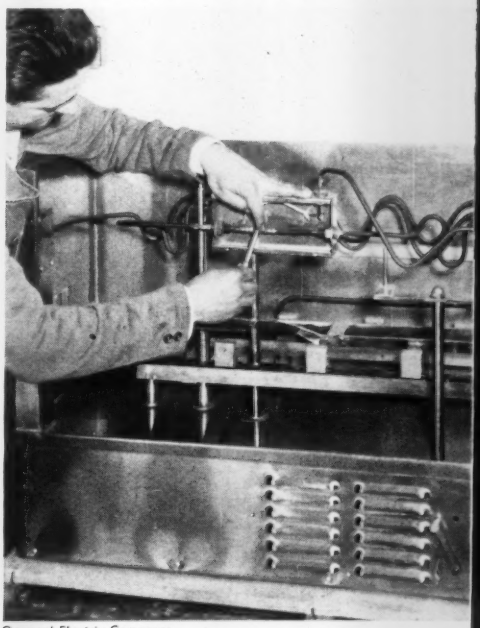
Wire mesh heater, cemented to electronic instrument housing, can provide up to 25 watts a square inch, will stand temperatures to 250° F, weighs but a few grams.

Electrofilm, Inc.

Sprayed-on heaters – conductive organic and ceramic coatings to which electrical connections can be made—may be used to keep complex parts like air scoops warm.

General Electric Company

Pasteurizer has tubular heating element that can be inserted through side wall. Maker points out that the element takes little space, is easily removed for cleaning.



General Electric Company

Hamburger stove, with formed tubular heater, is simple in construction, efficient in operation. It can turn out 400 hamburgers an hour, toast rolls at the same time.

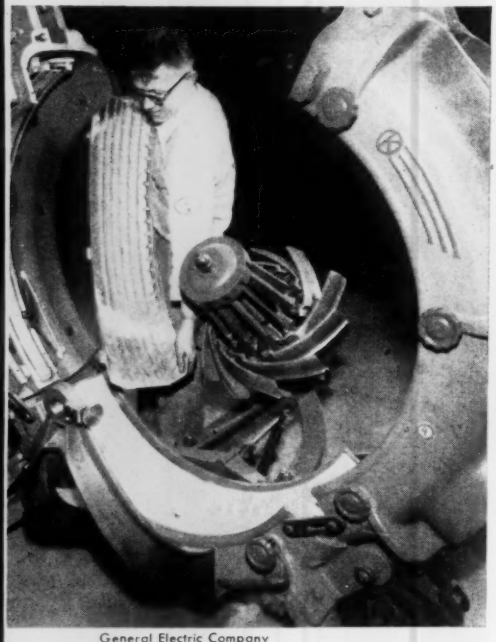
NEW WAYS . . . *continued from page 55*

Flexible heating

U.S. Rubber Company

Conductive rubber blankets speed edge gluing of plywood table tops. Here, blanket is attached to mold. Blankets are also used to laminate plastics, dry wallpaper.

Glue is cured in less than six minutes with heat supplied by rubber blankets attached to mold halves. Production used to take hours, required special equipment.



General Electric Company

Tire-retreader has built-in tubular heaters (visible on vertical section at left) for bonding new rubber to tire rim. This *Treadwelder* handles large truck tires.

Heating element is bent double and then shaped to fit the contours of the retreader's mold. Use of bendable elements virtually eliminates breakage in fabrication.

Extreme heat and extreme cold make the headlines. But it's control of moderate temperatures that often makes or breaks the profits.

In processing asphalt and clays, paper and textiles, oils, paints, chemicals, drugs, and food products, it is often necessary to maintain temperatures in the 120° to 250° F range with a high degree of accuracy to safeguard product quality and prevent undesirable reactions. It's important that heat be distributed evenly around the container or reactor in which materials are processed to prevent hot spots from developing; and that adjustments in the temperature level can readily be made.

Here, flexible electric heaters come into their own. They can be inserted in, wrapped around, or clamped on to tanks and kettles; plugged into any convenient outlet; and controlled to deliver the exact amount of heat required.

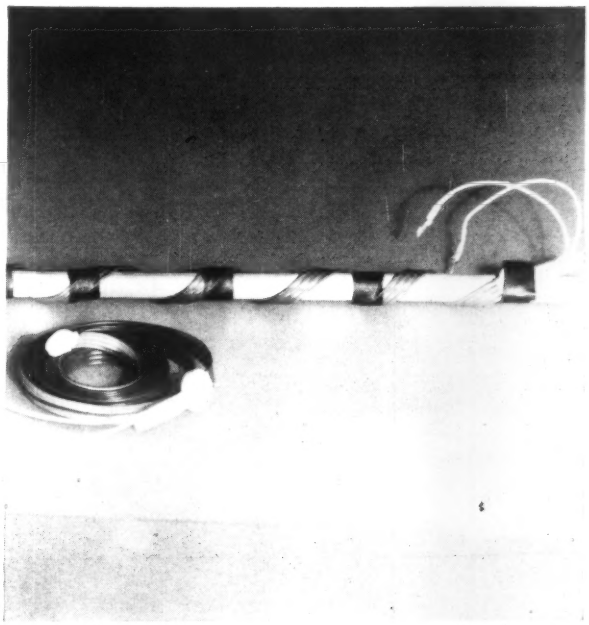
Tape, tube, and strip heaters, for instance, are being applied to food processing equipment, metal cleaning and degreasing units, shoe machinery, printing and packaging equipment, chemical- and oil-processing reactors, plating tanks, wax melting kettles, and metal-forming dies and platens.

For applications like these, heaters are obtainable in ratings from a few watts to several thousand, in diameters and widths from a fraction of an inch to two inches or more, and in lengths to 120 feet. The heating element itself may be designed for operation on 115, 230, or 460 volts; and it may be encased in steel, aluminum, copper, or plastic tape.

No wonder these versatile heaters are prized by industrial "Do-it-yourself" fans—plants that make or modify much of their own machinery—as well as by original equipment makers.

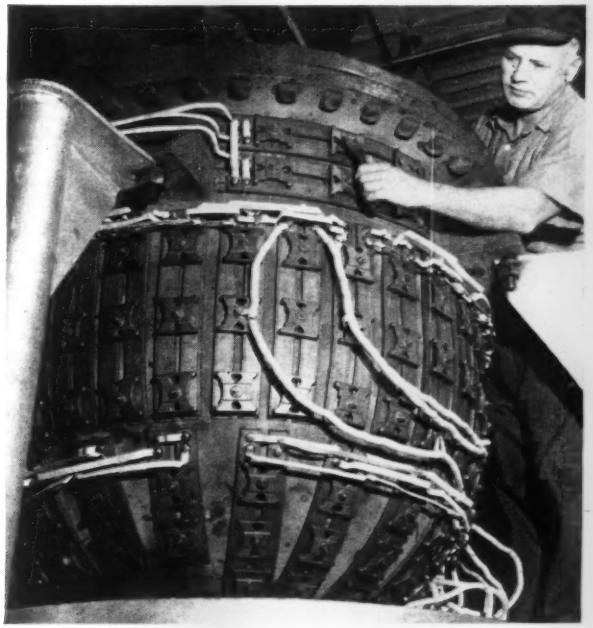
There is, indeed, almost no limit to the number of ways in which heaters can be used to improve product quality and plant efficiency. It's worth taking a little trouble to find out what they can do for you.

for your plant



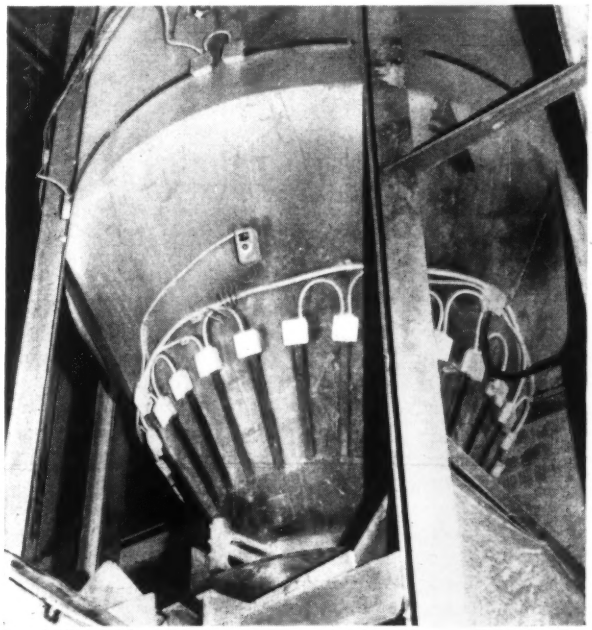
Cox & Company

Flexible heating tape can be wound around tubes and pipes to encourage flow of viscous materials, prevent freezing. *Ribbon Heat*, shown here, is for aircraft use. *Heatape*, page 52, is sold commercially for general industrial, farm, and home applications.



Edwin L. Wiegand Company

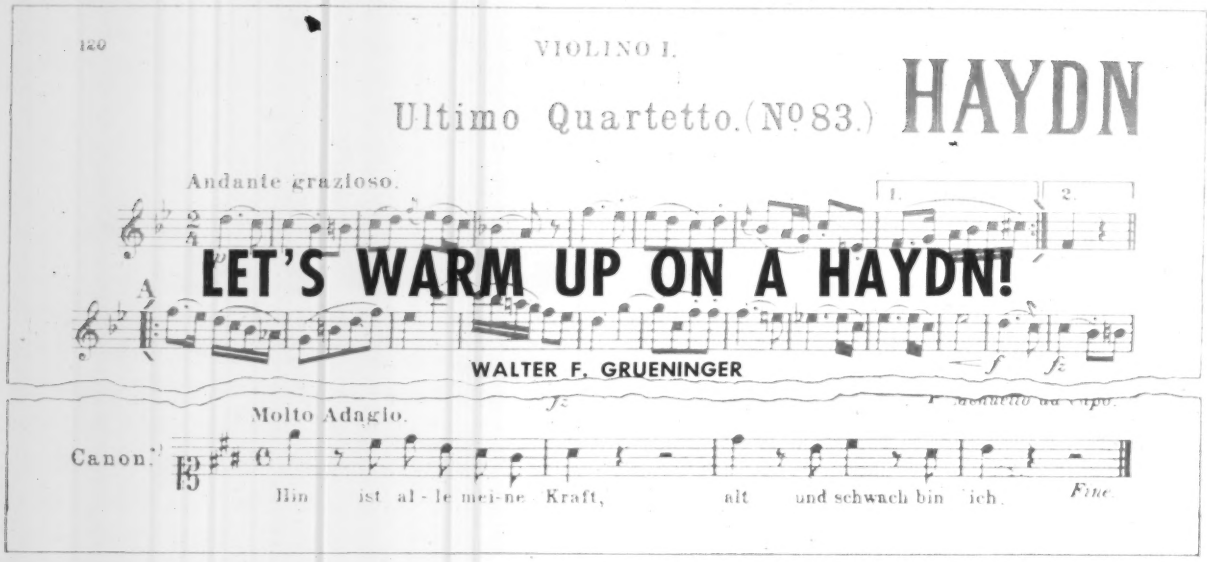
Strip heaters, clamped to lubricant kettle, are grouped in three zones (top, center, and bottom, as outlined by electrical wiring) to permit selective heating. Warmup is rapid, and user says temperatures as high as 500° F can be held for several hours.



Edwin L. Wiegand Company

Ceramic plant uses strip heaters on pug mills and extrusion presses as well as on clay storage bins like this to safeguard quality, keep material on the move, eliminate production delays. Here, strip heaters are applied to storage bin outlet zone.

Snap-on heating girdles made of woven mesh keep materials from freezing overnight. Manufacturer of lubricant sticks uses one unit for this purpose; adds another a few hours before the drum is to be emptied, to provide extra heat and assure free flow.



LET'S WARM UP ON A HAYDN!

WALTER F. GRUENINGER

Business men fiddle and keep the home fires burning with some hot licks from the masters.

YOU DON'T have to keep your ear too close to the ground to hear that men in business are among those participating in a form of recreation popular in England 300 years ago. It's playing chamber music with friends.

The compositions of Gibbons, Locke, Jenkins, Coprario, and Ferrabosco have given ground to Haydn, Mozart, Beethoven, Brahms, and Schubert. But the reason for playing is the same in any century—it's fun.

Justin F. Shapiro of San Leandro, Calif., an administrator and project manager at Land Air, Inc., plays the violin. He finds chamber music playing "the most relaxing and most completely refreshing avocation."

Archer Ames, violist, owner of a photo retouching firm in New York City, says, "Headaches, pains, worries—all recede."

Dr. Peter C. Goldmark, vice president of the Columbia Broadcasting System, physicist and cellist, finds: "The change from concentration on electronic problems to five or six sharps or flats, provides tremendous relaxation: The feeling that develops among chamber music players is something very special. It is like belonging to the same family."

Players of wind instruments, like A. Maurice Loveman of Nashville, who tootles the flute and operates a planing mill and wooden box factory, say they benefit physically because of the breathing.

Specifically, what is this recreation? What goes on among amateurs who turn to it?

Chamber music is music written to be played in a chamber or room—music for the home, one player to a part. It's the most intimate form of music and very likely the most expressive. It's a conversation between instruments of nearly equal importance. It's the department head get-together rather than the annual meeting. Potentially, every player is a soloist. The greatest heritage of the form is the string quartet in which two violins, viola, and cello discuss heavenly subjects. But important works have been composed for combinations that include piano, clarinet, flute, French horn, oboe, and a few other instruments.

Barber shop quartets, banjo clubs, and folk singers amuse most chamber music players. They feel they have gone far beyond them. They commune with great minds.

But not all of them look down their intellectual noses. Earl G. Hedden of New Albany, Ind. is a retired bank cashier who plays the cello. While he appreciates Bach, Beethoven, and Brahms, and the long line of classicists he is thankful that he can also love Stephen Foster, Victor Herbert, "In the Gloaming," "Forgotten," and numerous hymns.

In the 17th century no English gentleman was considered "compleat" unless he played music at first sight. Merchants and noblemen often invited friends for an evening of unrehearsed do-it-yourself music-making in which the host and his family participated.

Contributing to the growing interest in chamber music in our time are increased leisure and such horizon-stretching factors as higher formal education, radio and phonograph

Mr. Grueninger is the circulation director of DUN'S REVIEW AND MODERN INDUSTRY

records. More money is spent for admissions to concerts than to baseball games. Phonograph record company officials expect sales to hit a new high of $400 million in 1957, and "serious" music is gaining on the Elvis Presley kind.

Passive listening is not enough. Arthur Martin Karl, president of Names Unlimited, Inc., came to that conclusion when he was 31. He wanted to participate. He studied the recorder, an old type of flute, until he became fairly proficient. But he found he was on the wrong instrument. The expressive potential of the recorder was too limited, and there was insufficient good music available for it. So he turned to the cello. He says anyone who can read music, takes lessons, and practices an hour a day for two years can play well enough to join an understanding amateur group that likes the simpler 18th century Haydn quartets.

In 1946, the late Leonard A. Strauss, an Indianapolis business man, dreamed of a coast-to-coast chain of homes that would offer an evening's hospitality to chamber music players. He travelled often on business; and during his trips he missed the fun of playing his viola with friends. The path led to Miss Helen Rice in New York City, a skilled amateur violinist and violist and an indefatigable worker in the cause of amateur chamber music. The Amateur Chamber Music Players grew out of their meeting. Its eighth directory of more than 3,000 members has just been published. It gives names, addresses, phone numbers, instruments played, and each player's rating of his skill. Outside of the United States, 27 countries are represented. Members are expected to encourage the playing of chamber music. There are no dues, though contributions are accepted to cover operating expenses.

Here's how it works: I am listed in that directory as a violin, grade B. Six months ago a stranger telephoned me. He and his wife had just moved to a nearby community, and had found from the directory that I was the nearest violinist. He played the violin; his wife played the cello. A professional violist listed in the directory had agreed to come for quartets in a week. Would I join them? It wasn't until our fourth congenial session that I asked Marvin Mausner what he did for a living. He's a Ph.D. employed as a chemist developing new products for the widespread Interchemical Corporation.

The same four players frequently get together every week. One quartet consisted of four men: a retired minister, a retired seaman, a secondary school mathematics teacher, and the business manager of a group of magazines. They met every Tuesday, skipping the Summer months, for six years. Substitutes were secured when regulars were ill. In theory, the group rotated the locale from one player's home to another. Actually, the player with the biggest house and the best refreshments was generally the host. The quartet did not disband until World War II, when gas rationing made travel costly and the pro-Hitler views of the Prussian seaman met opposition.

An evening at the author's home: Jan Tomasow, concert violinist; the author; Dr. Peter C. Goldmark, vice president, CBS; Gerald Reidy, service representative, Public Service Electric and Gas Co.

It is no less common, however, to sit in with many different players during the course of a year. If every player had his way, he'd probably play one night a week with a steady group to "work up" a composition, and set aside another night for "freelancing"—reading at sight and meeting new enthusiasts. That's what Armand Pushman, violist and partner in a wholesale oriental rug company, tries to do. Most players are delighted to play with *anybody* once a week. In nearly all areas, the cello is in short supply.

One of the players' delights is an "open house" session. The Hunterdon County Art Center in New Jersey runs an "open house" in the Old Stone Mill the second Sunday each month. Playing fee is $1. Free tea and coffee but bring your own sandwiches. One of the best chamber music violinists I have met in 20 years of playing goes there on occasion. He is Kenneth C. Deane, assistant Eastern Manager of Scott-Foresman & Co. Many players have their own "open houses." They invite friends to come in on Sunday at 3 P.M. or any time up to 10 P.M. On New Year's Eve the sessions may run from 9 P.M. to sunrise.

On such occasions, no one knows what will be placed on the music stand. Before the cello arrives, it may be the Leclair Sonatas for two violins in the Hinrichsen edition, or the Viotti duets, or the schmaltzy Dvorak Terzetto. But when there's a quartet, expect the request, "Let's warm up on a Haydn"—one of his 83. The Bird, perhaps, with its distinctive chirping. Or the Emperor, which gives everybody a chance to lay it on thick when he carries the Austrian National Hymn in the *poco adagio, cantabile* movement of variations. But before long there's a pianist in the house, and then it's the gay Brahms' Piano Quartet in G Minor followed by the Dohnanyi Piano Quintet No. 1 with the 5/4 movement that throws most sight readers. But here's a clarinet! His Dixieland Band at Harpers Amusement Park has a two-hour break. He's come over to do the Mozart Clarinet Quintet before supper. Then, while most players take a breather and a salad and some hot lima beans, an eager-beaver violin, cello and viola breeze

through the melodic Beethoven Op. 3 and the first Schubert B Flat.

But the clans have gathered now, and it's time to go into the chamber orchestra repertory, substituting instruments when the composer's wishes can't be met. Let the bassoon play a cello part and the horn transpose the bass. How about Holst's St. Paul's Suite written for players in a girls' school or the Handel Concerto Grossi—eighteen of them—or the Bach Brandenburgs—six of them? *Everybody* plays until the crowd thins out to the Mendelssohn Octet. Too soon comes midnight. One more? There's just the right combination left to speed the departing guests—Haydn's Rider Quartet.

Some players prefer a "double-header" or a "weekender." In the double-header, the same players have a session before supper and one after supper. As for the "weekender"—John Burnham, now of Welsh, La., plays the violin and viola for fun. For a living he's bought for American Locomotive and for Kaiser-Frazer. He recalls one memorable weekend when he and three others bade farewell to their mates, took a cabin in the woods, stewed up a pot of food and played by daylight, candle, and firelight until they *had* to come home.

Robert N. Lyon, cellist and head of the forecast and financial research division of Standard Oil (N.J.) is in his 26th year with the same group—a jeweler, a commercial artist, a tax collector. The quartet has a "Summer Festival" at the commercial artist's place in Patterson, N.Y.—they call it "The Tanglefoot Festival." Last Summer Lyon went to South America on business, and had four wonderful evenings in Argentina and Brazil. "The music comes out just the same, though the violin is played in Italian, the viola in Portuguese, the second violin in German and the cello in American, with coffee conversation in gesture."

Music camps offer the same opportunity for round-the-clock playing as an open house or a double-header. Aspen, Col.; Interlochen, Mich.; Bennington College, Vt.; Goddard College, Vt. invite amateurs during Summer sessions. They go for one or two weeks' vacation, travelling up to 2,000 miles. Business men flock to these places. It's common to find amateurs playing eight hours a day. They outlast the professionals.

Vincent Canzoneri of Newton, Kan. plays the viola and violin and is vice president of American Flours, Inc. He says, "I never could get a kick aesthetically from a bag of flour, so must have chamber music. . . Besides, I do not know a better way of enjoying a friend than through making music together. We say things to each other that words never get across. I have played quartets from Washington, D.C. to Hawaii and as far west as Tokyo."

The international aspects of chamber music playing seem endless. Last year Russell J. Ferree, violinist and treasurer of the Lubrizol Corporation of Cleveland, spent three weeks in London and Paris. Through contacts given to him by the Amateur Chamber Music Players he enjoyed two sessions in each city. He spent Sunday afternoon in Paris in a French home. "There were seven of us. I spoke no French, and only two others spoke English. Yet we all became the best of friends. In England I played quintets. An elderly Scotsman played viola and his wife (much younger) played first violin. The cellist was a delicate little old lady, quiet and retiring, who smiled and said very little. She swayed from side to side and gave it everything she had. A postal employee played second viola."

If you own a fine instrument you are likely to reveal more beauty more easily than if you own a poor one. Most amateurs do not own instruments as good as those of professionals but there are exceptions.

George Klemperer, the Richmond, Ind., farmer who says that playing quartets is "a perfect balance to farm life," plays a Guarnerius del Gesu made in 1732. It's not unusual for a Guarnerius to sell for $30,000. Sotirios S. Lontos of Brandon, Vt. owns a Gaspara da Salo cello made about 1590. Mr. Lontos dabbles profitably in antiques. He has played quartets with the same group for 20 years.

Lionel Billeud, owner of a general insurance agency in Lafayette, Ind., takes pride in his fine old Tomaso Eberle violin made in the 18th century. Sam Citron plays a Sanctus Serafin violin made in 1672 and a Giacomo Rivolta viola made in 1824. He is a partner in a jewelry supply company in Charlotte, N.C. His amateur string quartet once invited the great Budapest Quartet for an after-recital supper. Robert J. Kemmer of Grafton, Wis., supervisor at Sprague Company, plays a fine Giovan Paola Maggini viola made in the early 17th century. Herman Silver of New York City, a textile designer, operates a silk screen plant and plays a Bartel viola made in Vienna in 1745.

Joyce N. Feldman owns a Peter Guarnerius violin and is in the export business in New York City. He says, "We tolerate some professionals. Others we accept." Among the latter are Isaac Stern, Gimple, Goldberg, Milstein, Odnoposoff—all internationally known virtuoso violinists.

Nearly every world metropolis offers at least one home, often a business executive's, where the virtuoso who is passing through on a concert tour may tarry for the fun of playing chamber music. (See photo.) Good food and good companionship are expected; good playing is hoped for, though not often found by professional standards. But actually some experienced amateur chamber music players excel professionals who are soloists or are more accustomed to playing in orchestras.

Ludwig Stein plays the violin around New York City, often with professionals. He is vice president and buyer for a chain store. He says "Play with the best artist who will play with you, even though you may be the worst. You can never benefit if you are the best of the group."

Do men want women in chamber music groups? Yes and no. John M. Deschere of Poughkeepsie, N.Y. plays the cello when he isn't assisting the comptroller at Vassar College. Frequently he is the only male in a quartet. He *likes* to play music with the ladies. But Samuel Wolf, Linthicum Heights, Md., an electrical engineer who plays the violin and horn, says: "It's like admitting a woman to a poker game." One widower says he likes to play with the ladies because he may find another mate. During the early years of the war, a young amateur male quartet-playing cellist married the second violin within six months of their meeting over Haydn. Now their pretty 15-year-old daughter fiddles Haydn, too.

T. K. Jenkins, lawyer from Buffalo who plays the cello, summarizes the situation when he says there is no discrimination between sexes but, "There is less interference from conversation and other things when the group is masculine."

continued on page 72

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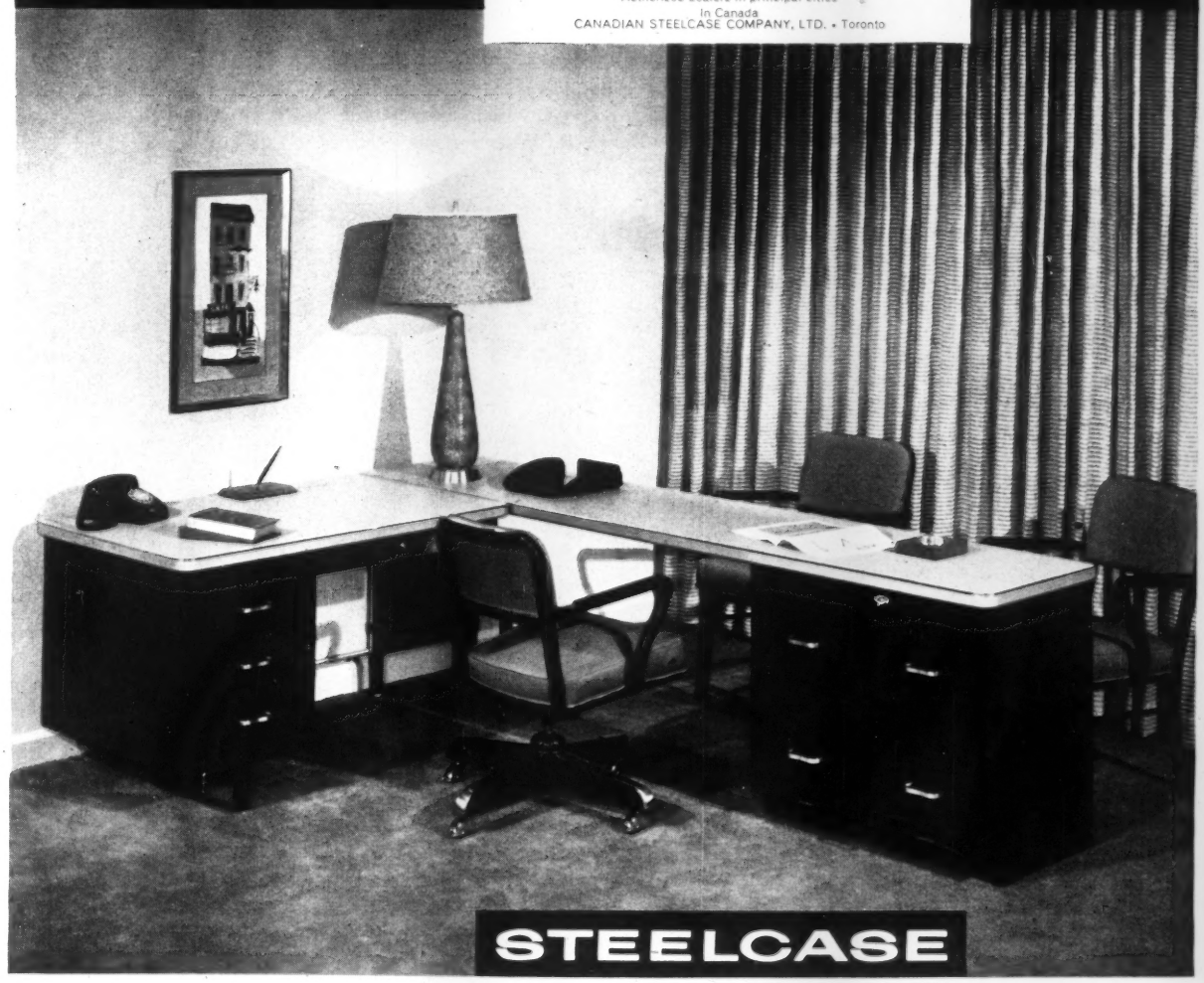


STEELCASE

Argonne National Laboratory Experimental Boiling

Electricity from NUCLEAR POWER TODAY!

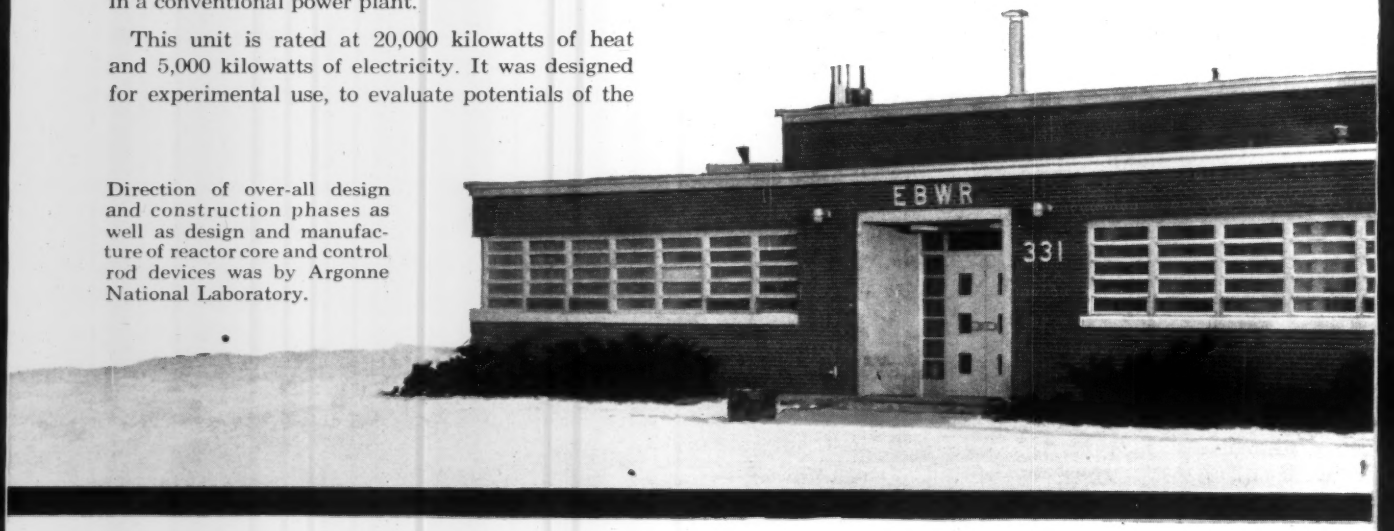
NOW in operation at Lemont, Illinois, this is the first commercial-type power plant in the United States to generate usable quantities of electric power from nuclear fuels.

The unique feature of this boiling water reactor is that live steam is actually generated in the uranium core by nuclear heat and piped directly to the turbine without need for intermediate heat exchangers as required by other types of reactors. In effect, it operates very much like the coal-fired boiler in a conventional power plant.

This unit is rated at 20,000 kilowatts of heat and 5,000 kilowatts of electricity. It was designed for experimental use, to evaluate potentials of the boiling water reactor for large-scale commercial applications. Power generated is used by the Laboratory to meet a portion of its own electric power requirements.

Allis-Chalmers is proud of its association with this significant project. It's another example of "Engineering in Action" to provide power for better living from any source, whether it be water, steam, oil, or the atom itself.

Direction of over-all design and construction phases as well as design and manufacture of reactor core and control rod devices was by Argonne National Laboratory.



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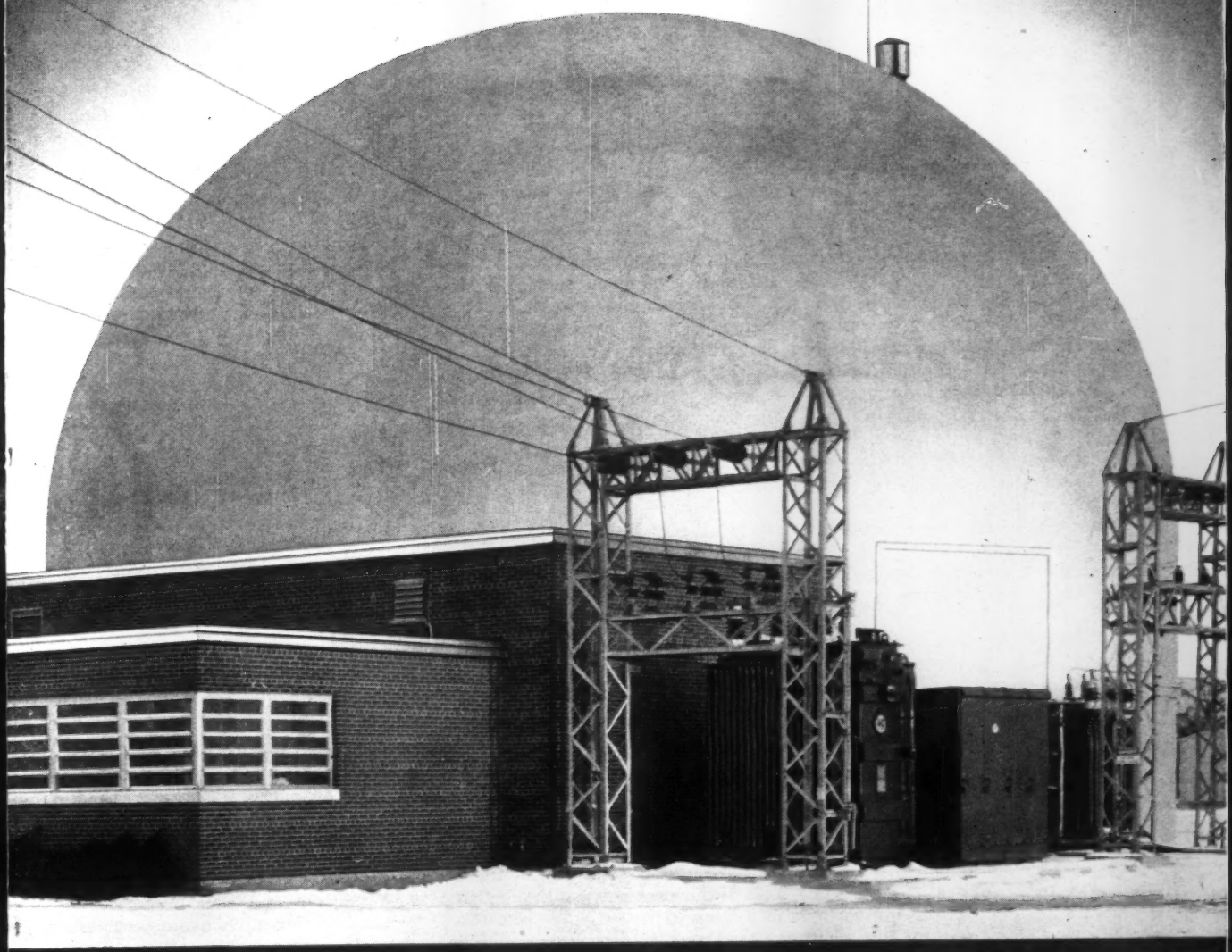
- Main and reserve power transformers
- Indoor and outdoor switchgear
- Automatic voltage regulator
- Circulating water treatment system
- Ac-dc distribution center
- Diesel-generator set

Water Reactor in Full Operation



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REFORM IN THE CONFERENCE ROOM

How one company's trying to profit by that heavy investment in executive time—the administrative meeting.

HOW MUCH TIME do you spend a week just in meetings? Do you feel the conferences you attend are worth the executive time and talent they demand?

Asking themselves these questions, the top executives of Ansul Chemical Company discovered that they and their middle management members were spending from ten to as much as fifty per cent of their working time in meetings. Since this represented a heavy investment, they decided to take a new look at just what the meetings were accomplishing—or not accomplishing.

They found that there had been no real criteria for calling meetings. Agenda were being inadequately prepared and frequently not carried out. Participants were too numerous and inadequately chosen. Decisions were often not reached, or resulted in no follow-up action. Despite, or because of these difficulties, more and more meetings were being held, and proportionately less and less was being accomplished. The situation prompted one executive to nickname Ansul the "Ansul Meetings Company."

But Ansul's top management recognized three fundamental facts about meetings: Meetings are an organizational necessity; since you can't eliminate them, you'd better improve them. Managers are participants more often than they are chairmen; so participant training should be stressed. Meeting theory is effective only after a man has "lived" the experience or at least seen the theory demonstrated.

Ansul's next step in reform was to try to answer the question: Just what is a meeting? Here are some of the answers it came up with:

- A meeting is only one type of communications tool. Many Ansul meetings were being called when other forms of communication might have been more effective.
- There are different kinds of meetings—decision-making, problem-solving, information-giving, and decision-selling. Deciding in advance what kind of meeting to hold affects the pre-meeting preparation and the behavior of everyone attending.
- A meeting is only a point in time. The real payoff does not take place at the meeting itself but in the subsequent action taken.

Under the guidance of a consulting firm, a plan was worked out to improve the skills of every one attending meetings. This provided for sessions in which three groups were separately trained: (1) The president, four vice presidents, and eleven division operating managers; (2) assistant division managers and department heads; and (3) lower-level management, such as assistant production managers and sales and purchasing personnel. The major areas of study were: (1) techniques of planning and conducting meetings, and (2) dealing with the "hidden agenda"—the personal psychological factors that were obstructing communication. This training was specially aimed at the participants—to develop in them a feeling of responsibility for the meeting's success.

Bridging communication gaps between different management levels was a major problem. The seminars revealed, for instance, that lower-level managers had been afraid to speak up firmly to their superiors. Because top executives were listened to more closely, they tended to participate vigorously in any discussion. Lower-level managers, however, sat on the sidelines in most meetings simply because their opinions carried less prestige weight. A full awareness of this problem was the first step in solving it.

As a result of their training, including the vital "acting out" or demonstrating of meeting principles, Ansul managers now are aware of the elements required for a successful meeting. They are learning, through doing, how to put these elements together.

Today, no one is invited to a meeting unless he will be called upon to contribute—and unless his contribution will be needed. No one is invited just as a matter of protocol. Each participant knows in advance what his function will be and why his area will be under discussion. Meetings are run according to an agenda which he helped set up—and which will require him to take an active part in decision-making.

Ansul doesn't pretend that its program has been a cure-all. But the results have been clear and specific. In the case of one major committee, meetings that used to stretch into three and a half hours have been cut to one and one-half hours, and—for the first time—the agenda are being completed. Other departments and committees are spending as much actual time in meetings, but they are getting more results. When they don't, they try to hold an informal post-mortem and ask: "What went wrong? How can we avoid that next time?"

Hibbs Photograph

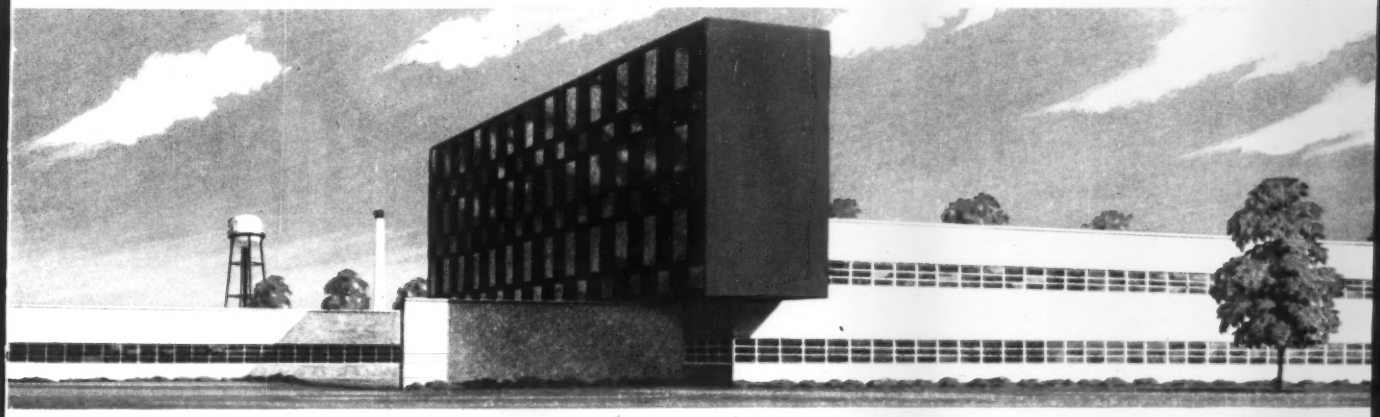
"Personally, I think these Thursday conferences are strictly for the birds."

But what Ansul executives feel most is that their own personal attitudes toward meetings have been radically changed. What was once a procedural headache has become a creative experience and experiment in communication.

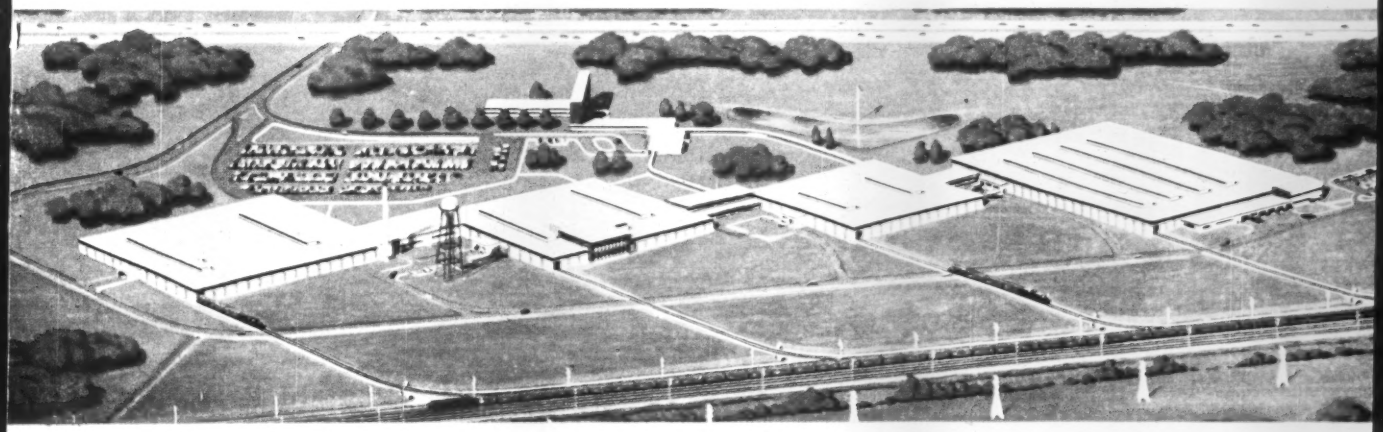
"Believe it or not," one Ansul executive put it, "now I even find myself looking forward to these meetings!"

—G. A.

Foresight by BAND-AID Plastic Strips Johnson & Johnson



Plant Site by PRR



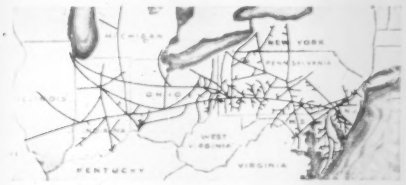
Johnson & Johnson's desire to build the world's largest, most modern plant for the manufacture of surgical dressings and baby products was transferred into prompt action when Pennsylvania Railroad located them at North Brunswick, New Jersey.

PRR quickly arranged property surveys and soil analyses, joined with local community groups to expedite construction and work out building code requirements. During construction, PRR rushed needed building supplies to the site via fast freight. The result is this new plant strategically located along the PRR main line and U.S. Route 1.

PRR's vast experience in plant locating is offered to all industries . . . can help put *your* business in the area of its most outstanding growth potential.

All of this is supplementary to the Pennsylvania Railroad's prime purpose . . . *to supply you with the finest direct line transportation in America's most densely populated and richest markets.*

Plan your future in Pennsyland!



LINES OF THE PENNSYLVANIA RAILROAD

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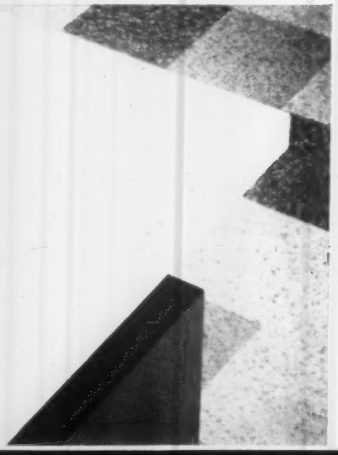
Or your home . . . factory . . . store . . . hotel . . . restaurant — any workplace or living place — or any product.

Find out about the hundreds of BAKELITE Plastics—colorful, workful materials that can dress up buildings, outside or inside, from office to home.

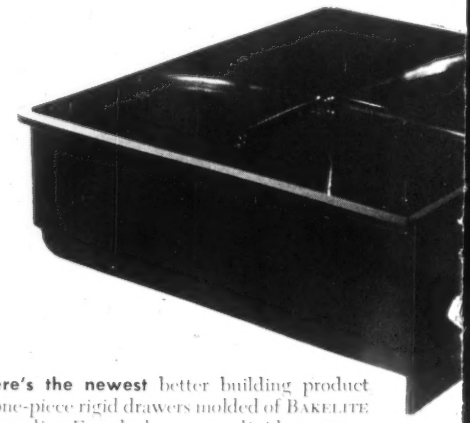
These plastics can spark profitable ideas for product and sales improvement. Investigate their superior properties and performance . . . then the sales-appealing luxury of textures, finishes, colors and translucency of the widest variety of plastics at any one source.

Come to Bakelite Company where there is more in plastics, experience and resources.

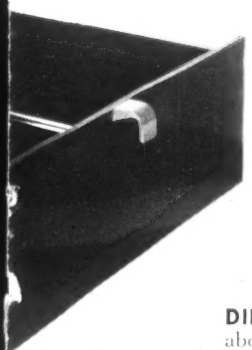
Plenty of glareless light is assured by the illuminated ceiling made of BAKELITE Brand Rigid Vinyl Sheet. These lightweight sheets make installation simple and quick and sprinklers can be concealed *above* the ceiling (U.L. approved installation). With a wide selection of patterns, colors, and textured effects, rigid vinyl sheet is ideal for colorful wall dividers and screens, for lampshades, and many other products.



Sleek, scratch- and stain-resistant laminates are used for desk tops. For the core of these tops, BAKELITE Brand Phenolic Resins provide dimensional stability, strength, moisture resistance and a positive bond. These laminates are also used for economical, easy-upkeep counter tops.



Here's the newest better building product—one-piece rigid drawers molded of BAKELITE Phenolic. For desks, room dividers, store shelves, bookshelves, in scores of handy places, they do a great job. They won't warp or stain. They resist moisture, heat, chemicals. They're seamless and smooth-finished. And they offer all these advantages at actual savings in cost over quality drawers of conventional construction. Any style drawer-pull is easily attached and there are molded-in channels for drawer dividers.



Furniture upholstery coated with BAKELITE Brand Vinyl Resins lasts longer, keeps bright colors brighter longer. Other advantages include ease of cleaning, superior scratch and scuff resistance. Wall coverings surfaced with vinyl resins provide easily-maintained, luxurious room decoration.

For style, service, beautiful designs and colors, and long years of easy upkeep, flooring made of BAKELITE Brand Vinyl Resins is the new standard. Tough for long wear, resilient for comfort underfoot, it's the type of flooring preferred by those who want the most in beauty teamed up with economy.

First in the world of plastics

DID YOU KNOW? The intricate 3-dimensional map on the wall above is made of BAKELITE Rigid Vinyl Plastic by vacuum-forming . . . a process that offers great benefits for many types of products. BAKELITE Resins are also in the finish for the wall paneling, make the unbreakable recording discs in the dictating machine and are used in glass fiber reinforced plastic chairs.

BAKELITE BRAND PLASTICS

See BAKELITE's exhibit, Pacific Coast Plastics Exposition, Los Angeles, Calif., March 18-21

BAKELITE COMPANY, *A Division of Union Carbide and Carbon Corporation* UCC 30 East 42nd Street, New York 17, N. Y.

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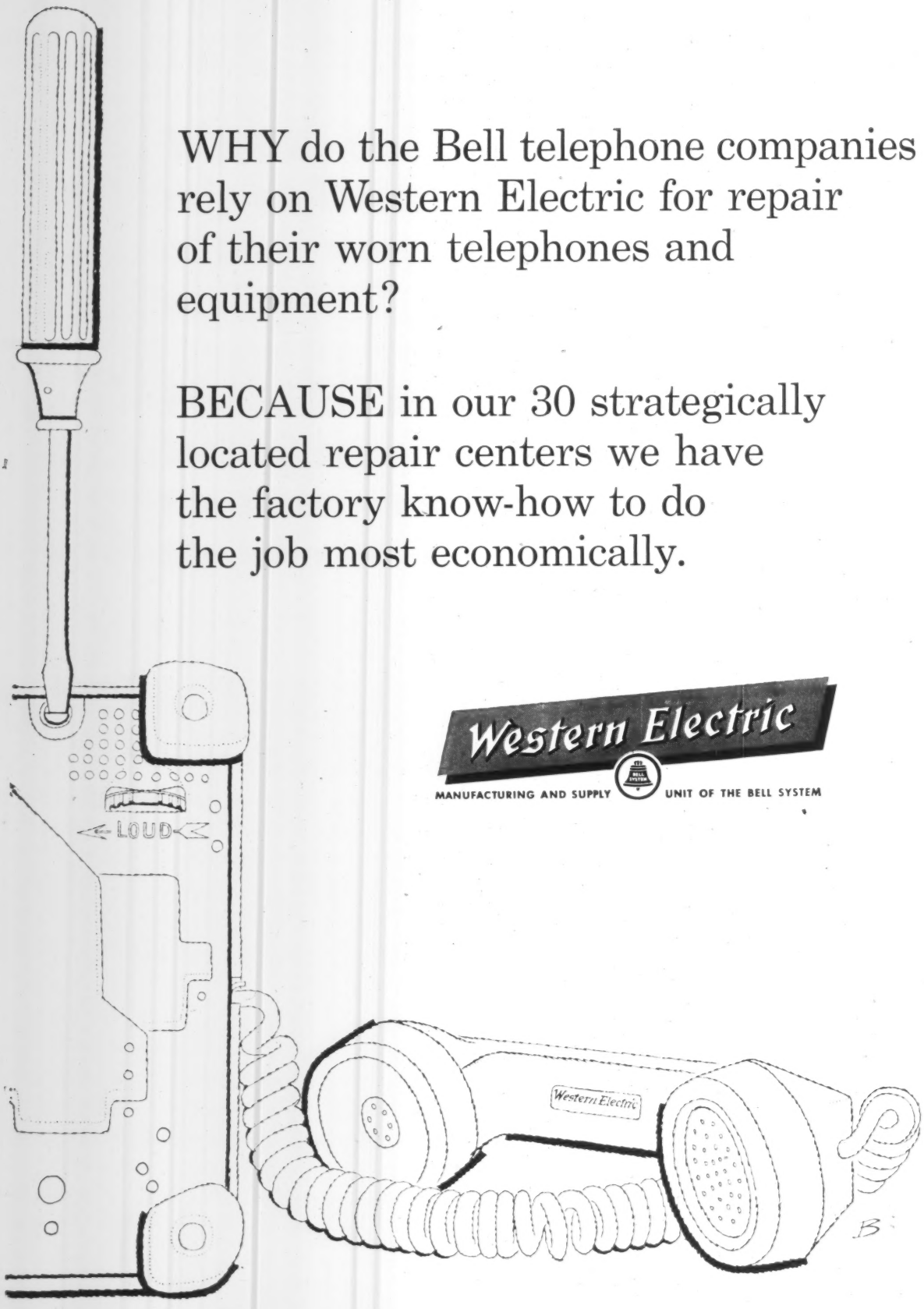

WHY do the Bell telephone companies rely on Western Electric for repair of their worn telephones and equipment?

BECAUSE in our 30 strategically located repair centers we have the factory know-how to do the job most economically.

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MANUFACTURING AND SUPPLY UNIT OF THE BELL SYSTEM

SELLING TO THE AUTOMATED OFFICE

ALSO: *What's New in Trademarks— A Contest Fizzles Out*

HOW DOES a company adapt itself to pervasive changes in the nature of its market? For an answer, look at the office duplicating equipment industry.

The coming of office automation will create a new market for this industry. Rather than displace the product line, integrated data processing will offer new opportunities for companies alert enough to prepare for the coming changes.

This is the opinion of Mathews Dick, Jr., vice president of sales of the A. B. Dick Company, which sold about $30 million in duplicating equipment last year.

He says that "by enabling business management to obtain more information and solve more statistical problems, automatic data processing will create a greater need for mechanizing the rest of the office." Dick sees its greatest potential market in "linking automation to action." For if 10, 50, or even 100 people must use the information churned out by the electronic computers, they'll need a written communication. To bridge this gap quickly, the computer can be made to print on a duplicating master.

Besides analyzing the specific needs of business as the result of the coming of the computer, the company has realigned its sales organization so that salesmen specialize in particular industries, since paperwork problems are becoming increasingly complex. Some years ago, the markets for various kinds of duplicating equipment were looked upon as separate entities to be approached by different salesmen.

Another office equipment producer, Commercial Controls Corporation, Rochester, N.Y., is using the do-it-yourself method in training

Salesmen at Commercial Control Company's new training center in Rochester, N.Y., learn the intricacies of integrated data processing, as companies prepare for new markets.

NEW . . . for Floor-to-Floor Production Flow . . .

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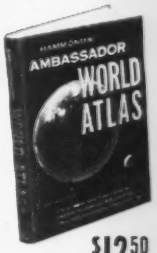

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salesmen for the new markets created by IDP. At the newly opened training center in its home city, the company puts salesmen through a three-week course in which they learn to operate not only such Commercial Controls equipment as the Flexowriter, but also the allied IDP equipment of other manufacturers. Since office automation is a complex and organic concept, salesmen must understand it as a whole.

On the mark

Trademarks are more popular than ever before. Last year nearly 21,000 new trademarks were registered at the U.S. Patent Office—a new record.

Companies in heavy industry, which have not generally stressed trademarks in the past, are now finding them useful for brand identification and sales promotion. Some companies, among them American Cyanamid and Armstrong Cork, have modernized their trademarks.

In a number of instances trade names were changed to incorporate the more widely known trademarks. (A trade name is the name of the company; a trademark is a symbol or the name for the product.) The Four Roses Distillers Company is the new name for Frankfort Distillers Company, while the Socony-Vacuum Oil Company has become Socony Mobil Oil Company.

With increased stress on the visual side of selling in television, packaging, and displays, there has been a rise in three-dimensional trademarks, such as the "Piel Brothers" and "Speedy" Alka Seltzer.

Smith Brothers, Inc., has recognized a *fait accompli* by officially naming the cough drops brothers Trade and Mark. Amana Refrigeration, Inc. is taking steps to protect its newly acquired trademark, Deepfreeze, which is also the name for the Government's Antarctic operation.

Unwanted money

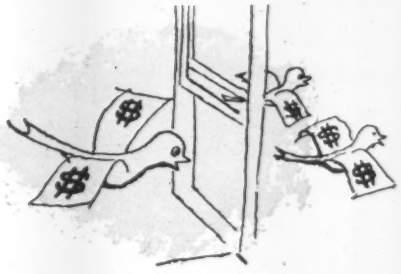
Back in October 1956 we carried a piece about the $100,000 finders-keepers game promoted by the Englander Company. As you may remember, the mattress manufacturer left a bank check for $100,000 hidden in an accessible place in the New York area. Because of the publicity, the company gained increased recognition of its name and brought considerable store traffic to dealers who cooperated by providing clues.

The most interesting part of the entire affair is that it cost the company not a penny in prize money. While $100,000 was the value of the original offer, the longer it remained hidden the lower it fell. When the check, rolled inside a lipstick container and left in a tree stump in Eastchester, N.Y., was finally discovered it had dwindled in value to a paltry $2,000.

But, surprisingly, the finder did not bother to come to the Englander Company to claim his cash. The company guesses that it was found by someone who did not realize its value and later discarded it.

"Your work we find, with deep regret, is sadly uninspired. With sorrow tugging at our hearts, we have to say, 'You're fired.'"

YOU CAN PAY MUCH MORE IF YOU WISH



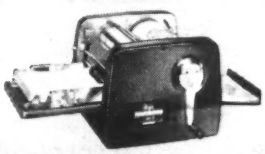
but now Heyer offers push-button duplicating at little more than the price of some hand-operated machines

Heyer AUTOMATIC *Mark II* **CONQUEROR** SPIRIT DUPLICATOR

$299.50 Plus Tax

Heyer has broken the price barrier with the new Mark II Conqueror automatic electric spirit duplicator. Every office duplicating job—bulletins, form letters, sales plans, etc.—can be produced much more easily on the new Model 76 Mark II Conqueror, at the rate of 110 clear, crisp copies per minute in 1 to 5 colors . . . at a fraction of a cent per copy. Its constant speed produces better and more uniform copies; it frees the operator so that the copies can be observed; and most important . . . there's no effort on the operator's part, for this new Conqueror runs without watching, and even turns off automatically! You can pay much more if you wish, but the Model 76 offers all this . . . at a price that can't be matched.

Engineering improvements on the Model 76 Mark II Conqueror include a brand-new Feed Drive Mechanism which works only in a forward motion . . . eliminates the lurch found in old-fashioned reciprocal drives. It has new High Precision Clutches and Nylon Gears that are quiet and need no lubrication, plus an 11" and 14" Cylinder Stop. The completely redesigned Motor Drive gives smoother operation, while the conveniently positioned Motor Bar permits effortless fingertip starting. Operating instructions are permanently printed on the Model 76, so anyone can operate it in a jiffy. Feature for feature . . . this Mark II Conqueror is the biggest value in spirit duplicators today!



MODEL 70 *Mark II* **CONQUEROR**

For those who are looking for a fine quality duplicator at the lowest possible price . . . the hand-operated Model 70 Mark II Conqueror is the perfect buy. It has been completely redesigned too, and now features a new Feed Release Button as well as Paper Stackers, previously found only on the Model 76 automatic electric duplicator. The Model 70 Mark II Conqueror hand-operated duplicator prints up to 110 copies per minute of anything typed, written or drawn on the master . . . in 1 to 5 colors at once. **$195.00** Plus Tax

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☐ Send additional information about the new Mark II Conqueror duplicators.

☐ Please arrange a demonstration.

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HAYDN . . . *continued*

M. W. Wallace, who is a city planning consultant, market analyst, real estate developer and violist from Salt Lake City, has put his finger on something: "There must be a great number of men who enjoy good music but are afraid to admit it for fear of being considered odd. It's much more acceptable to be a fight fan. Many secretly wish they could play an instrument now, but gave up studying too soon. Moral? Encourage our youngsters."

George D. Burgesser, oboe and special agent of the Treasury Department in Chicago, says this to young business men: "If you like playing chamber music more than something virile like bowling or weight lifting, it's no reflection on your masculinity or your business integrity. You're not an odd ball for preferring Haydn to ridin'."

Finally, if you ask a group of chamber music players, what they dream of doing with the art, you come up with answers like these:

Henry Berninger, cellist and retired plumbing and heating contractor living in Miami, would like to play the old composers perfectly. A stockbroker would like to play the late Beethoven quartets as Beethoven envisioned them. Ernst Kassowitz of Seattle, cellist and professional photographer, would like to keep together an enthusiastic group of quartet players, and hopes that more people will get acquainted with and love chamber music as he does. Walter Distelhorst, retired advertising manager and clarinetist of Louisville, would like to continue playing for years and years with three grandsons —two clarinets, flute, and trumpet. Milton N. Donin of Metuchen, N.J. executive at E. R. Squibb & Sons, would like "to play (just once) in a quartet using four well-matched old instruments played by me [viola] and three first-rate professionals who are kind and charming enough to make me play over my head and not feel like an ass. The session is to be followed by fine food, drink, and conversation." A cellist-executive dreams "I'm at a concert of the Budapest Quartet and at 8:35 P.M. the manager comes out and says, 'Is there a cellist in the house?' Of course they'll have to take out the Bartok." All players would like to play better and forever.

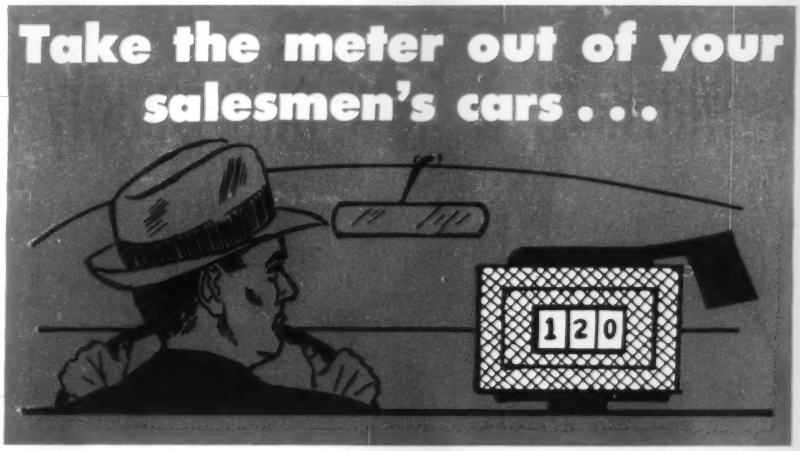
power. Thus a large portion of the purchase price may be quickly recovered in tax savings.

That's what publishing corporation Crowell-Collier figured on doing when it contracted to pay $20 million for the profitable Bitner television stations. The deal failed because Crowell-Collier could not find the equity money. But its tax and financial strategy, as outlined in recent SEC hearings, is probably sound.

The physical assets of a good TV property are worth relatively little. Most of the purchase price is for earning power which, in turn, is attributable to network and advertising agreements. By allocating most of the purchase price to such contracts and charging it off over their short life, Crowell-Collier hoped to establish a loss that, with carrybacks, would have provided some $3 million of the cash needed to pay the proposed purchase price.

In these days of diversified corporations – dealing in different product lines, operating at raw material, manufacturing, and distribution levels, establishing branches in different geographic areas—top management must decide whether to operate through corporate divisions or subsidiary corporations. Tax cost is only one of the elements entering into this decision, but it is an important one. Tax advantages of operating corporate divisions rather than subsidiaries include the elimination of the tax on intercorporate dividends and of the tax on profits resulting from sales by one member of the corporate family to another. Also losses of one branch can be used to offset the profits of another. The chief advantages of functioning through subsidiary corporations is the privilege of having $25,000 for each individual corporation taxed at 30 per cent rather than 52 per cent. This represents an annual cash saving of $5,500 for each subsidiary; where there are many profitable branches it may add up to a compelling reason to use subsidiaries.

A company that does substantial foreign business may want to use subsidiary corporations to qualify for the low rate available to a corporation that can qualify as a Western Hemisphere Corporation or to conserve foreign income for expansion. Branch income earned abroad



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Rising automotive costs bring pressure from your salesmen for higher mileage allowance rates. Now is the time to let a professional nationwide leasing company like EMKAY provide you with a dependable fleet *for less than you now pay for mileage!* Let us send you details of the EMKAY AUTO LEASING PLAN which best serves your needs.

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In brilliant performances against airborne targets at China Lake, "Sidewinder", Navy's new air-to-air guided missile, has captured the attention of the entire missile industry.

Simple in operation, small and light enough to be carried in quantity by single-seat Interceptors, "Sidewinder" can be fired singly or in salvos. It requires no complex launching system or special pilot training, and it maneuvers deftly at supersonic speeds. The missile displays extremely high single-shot accuracy —and even more important, *it can be launched well beyond reach of the target aircraft's defense.*

"Sidewinder" was developed by the Naval Ordnance Test Station of the Navy Bureau of Ordnance at China Lake, California. Philco assisted NOTS in the research and development program, and performed the subsequent engineering required for manufacture of the missile. "Sidewinder" is *now in full production at the Philco Government and Industrial Division.*

Philco is proud to have made this important contribution to the development of more effective electronic systems for our national defense.

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is taxed immediately, while income earned by a foreign subsidiary does not fall subject to U.S. tax until it is distributed to the parent.

Executive Talent

The growth and competitive strength of a corporate enterprise may depend on the quality of executive talent it succeeds in attracting and holding. The sales vice president of many a corporation is asked to carry nationwide responsibilities while knowing that the dealer who handles his product in Paducah, Ky., is acquiring financial independence more rapidly than he is. Given the same amount of earnings, the independent business man with his own corporation can build capital much more rapidly than an executive on a salary. Competition for executive talent has taken the form of bidding with offers of various types of tax-protected compensation. Thus most of the firms listed on the New York Stock Exchange have made stock options available to their executives. These options give the executive a free ride on appreciation in the value of company stock and permit him to cash in on it at capital gain rates.

Today's executive finds it very difficult to save enough out of his after-tax earnings to pay the insurance premiums necessary to protect his family's living standard even partially. As a result, most corporations provide group coverage in which the company pays the premium, and there is no tax liability to the executive. Another approach is for the company to lend the executive money to pay the insurance premiums to the amount by which the cash value of the policy increases each year.

Many corporations serve, in effect, as savings vehicles for their executives. In this case, the company commits itself to pay the executives additional compensation on a contingent basis after they leave its service. This arrangement may take the form of allotting shares of company stock to the executive according to a bonus or incentive compensation formula. The number of shares so allotted, plus dividend accumulations, become payable to the executive over a period of years, usually ten or fifteen, after he has left the service of the company. The executive gets the benefit of appreciation on all the shares so allotted to him. If he

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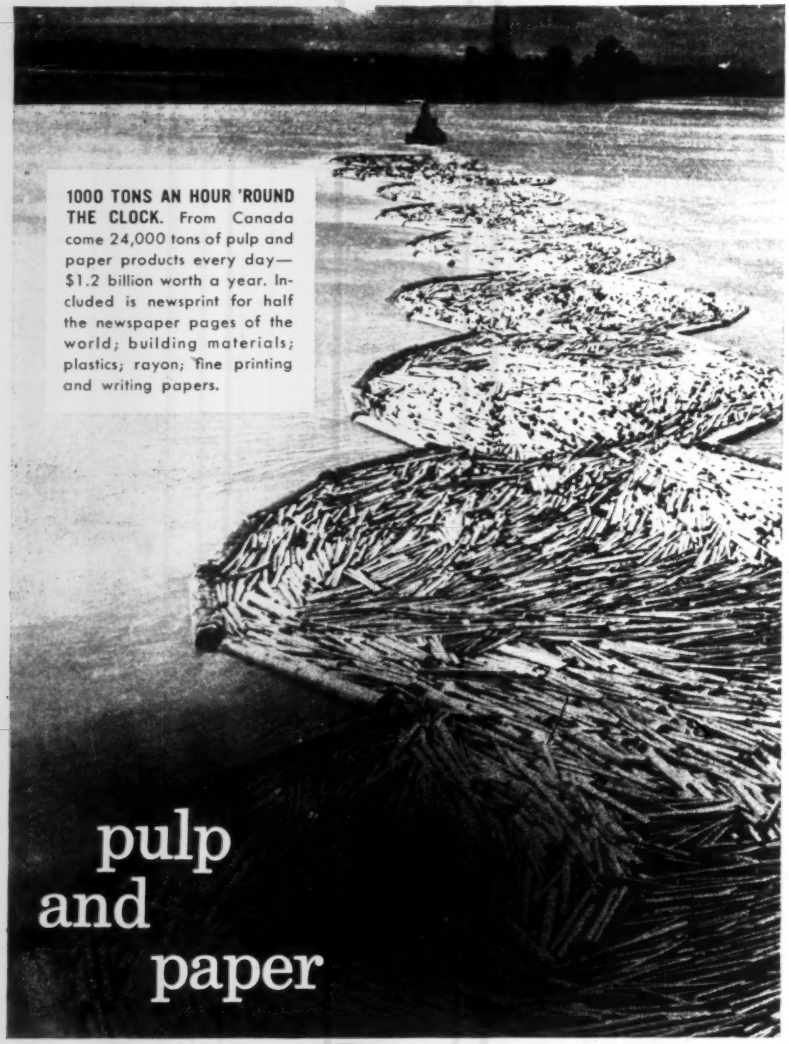
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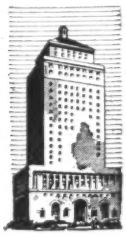

received a current cash bonus, paid tax on it, and then bought company shares with the balance, he would enjoy a future appreciation on a much smaller number of shares. Under the deferred plan, he will presumably be in lower tax brackets when he receives distribution of shares. Also, when the company distributes the appreciated shares of its stock and the accumulated dividends it will get a larger deduction. Koppers and a few others have done this kind of thing in "shadow stock." The executive never gets the shares but becomes entitled to cash compensation payable in the future and measured by the appreciation and dividends on a hypothetical number of shares "awarded" to him.

Future Labor Costs

The most effective way of building corporate funds for future compensation payments is through the medium of a qualified pension or profit-sharing trust. Here, the company can deduct payments as made; the employee pays no tax until he receives the money, and may get a capital gain break if he takes it all in one year; the trust can compound investment earnings tax-free. A company can get a competitive advantage in future costs by setting aside as much as it is allowed to deduct during periods of good business. Some companies, as a result of a successful investment policy with funds deposited in their pension trusts, now have their pension costs funded for many years in the future. This represents an important current advantage in labor costs. Looking ahead at future labor costs, many companies are concerned with the demand that they guarantee wage payments to regular employees even though they are

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not working. Some companies have staved off this additional labor cost by modifying an existing profit-sharing plan to permit distribution during periods of temporary layoff.

The Tax-Conscious Investor

New developments in current corporate finance bear the mark of a continuing effort to meet the tax requirements of investors. Recently, one publicly held company, Welbilt, Inc., obtained a ruling from the Internal Revenue Service that its principal stockholder could waive his share of the dividend melon and allow it to be redistributed to other stockholders without incurring any personal tax liability for the dividend he passed up. The additional dividend income, apparently, would not have netted him much after taxes. Chances are that he gained more in the untaxed capital appreciation of his holdings resulting from an increase in dividend distributions to public stockholders.

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Another strong financial trend today is the issuance of convertible debentures. Under present laws, investors get limited tax benefits when they sustain a loss in capital, and it takes a long time for income to restore lost capital. As a result, there is a premium on safety and also on realizing capital gains. A convertible debenture gives the corporation a tax break since the interest cost of borrowing money can be deducted. At the same time the investor has maximum protection against loss, and can share in capital appreciation.

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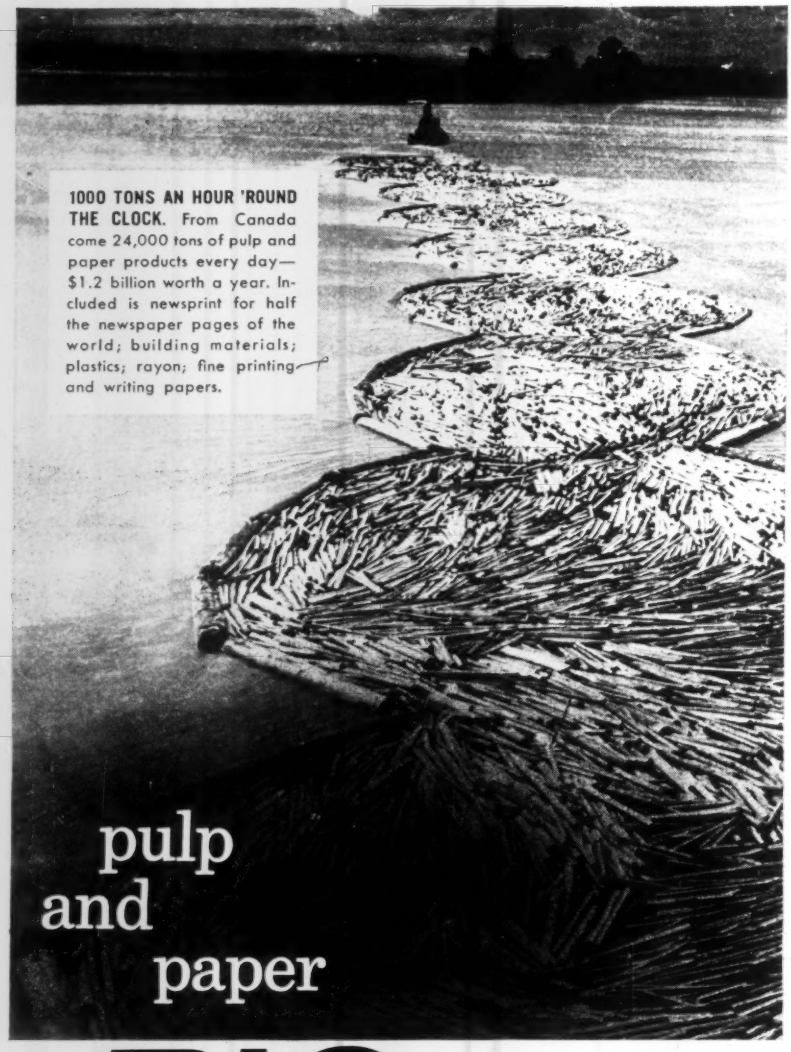
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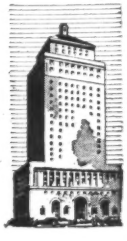

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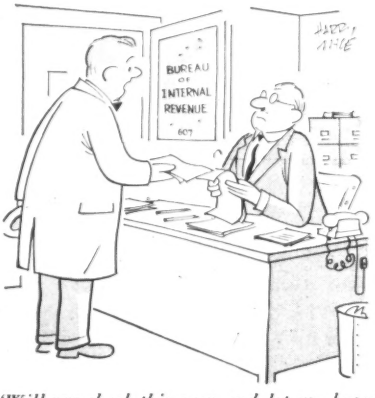

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rate needed to service the financing. Thus, at a 52 per cent tax rate, a corporation must earn slightly over 10 per cent before taxes to carry 5 per cent preferred stock. But it can carry a 5 per cent debenture if it earns 5 per cent on the money so obtained. Also, 52 per cent of the cost of the debt financing is underwritten by tax savings even if the new money is not profitably employed. The common stockholders risk only 48 per cent of the cost. But if money raised by a 5 per cent preferred stock issue is not employed at a profit, 100 per cent of the cost falls on the common stockholders.

Here is a comparison of the burden of $100,000 of new financing by borrowing with that of preferred stock:

Interest and Dividend Rate (*Per cent*)	3	4	5	6
Dividend Cost (*Dollars*)	3000	4000	5000	6000
Net Interest Cost (*Dollars*)	1440	1920	2400	2880
Cost Saving in Borrowing (*Dollars*)	1560	2080	2600	3120
Additional Pre-tax Earnings Needed for Dividends (*Dollars*)	3400	4510	5500	6600

During 1956, a banner year for raising new capital, only 59 issues of preferred stock reached the market. In 1955, public companies put out 97 issues; in 1954, 124 issues. Of the 59 offerings in 1956, 37 were floated by utility companies and are not typical of corporate financing. Of the others, all but four were convertible into common and thus will probably go out of existence at some point in the future. The reason is not hard to find. A $10 million issue of 6 per cent preferred stock costs the company $600,000 a year in dividends. On the same amount of 6 per cent debentures, the company would pay $600,000, but its tax would be reduced by $312,000, and the net cost of the bonds would be reduced to $288,000.

Will the big dollar advantage in paying out interest rather than dividends tempt corporations to become laden with debts, top-heavy with fixed interest charges, and vulnerable to recessions? It need not. The same dollar advantage can be obtained, by

issuing income bonds—debt obligations with fixed maturities, secured, if necessary, by a property mortgage or some other collateral, and carrying specified interest rates that are payable only if earned. This feature converts interest into a contingent rather than a fixed charge. Nevertheless, interest payments are still deductible for income purposes, provided the bond is an existing, valid, enforceable obligation to pay both principal and interest and thus a true liability of the corporation. In recent years, Corning Glass Works, Monsanto Chemical, Armour & Company, National Can, and many railroad companies have raised money with income bonds.

Modernization

Expenses that merely keep business property in an efficient operating condition may be deducted. But if repair and maintenance operations go beyond that and add materially to value or appreciably prolong the life, the expense will have to be capitalized. This means depleting the working cash in the business to pay tax on the amount so capitalized, and recovering it over the life of the improvement. The plant manager should know the criteria that will be applied to find whether maintenance cost is deductible or must be capitalized so that he can shape his maintenance planning to give the most satisfactory tax results. A well-kept file of contracts, notes, memoranda on decisions to make maintenance outlays and their purpose will help to support the deductions.

Whenever the time comes to change old equipment for new, there are tax decisions to be made. If you trade in the old equipment for new, there is no taxable gain or loss. If, on the other hand, the old equipment is sold for cash, gain or loss is realized. Thus if the cash that can be realized on the equipment is less than its cost on the company's books, a cash tax savings may be realized by selling the equipment rather than by trading it in. If trade-in value is more than the depreciated cost of the equipment on the company's books, tax may be saved by trading the old equipment for new equipment rather than selling it. However, a sale will produce income at capital gain rates, and the gain will be reflected in a higher depreciable basis for the new equipment than if the old equipment were merely traded for new equipment plus a cash consideration. Since the law now permits a rapid charge-off of newly acquired equipment, it has become more attractive to sell for cash and pay capital gains tax, then charge increased depreciation deductions against ordinary income.

Plant Expansion

A company has to make two dollars to pay off a dollar of plant and equipment debt. This situation is aggravated by inflation, which has made depreciation reserves inadequate to meet replacement costs. The prevalent expansion of volume and working capital demands has made it necessary for many companies to put their depreciation money into inventory and receivables. Then, when they borrow money to get the new equipment needed to remain technologically competitive, they are frequently faced with debt repayable in three years against equipment that can be depreciated only at, say, 10 per cent a year, or even less.

Congress eased this problem somewhat in 1954 by allowing a company to elect to depreciate newly acquired plant and equipment at twice the usual straight-line rate. For example, each year a company may now deduct 20 per cent of the depreciated cost of equipment having a ten-year life instead of 10 per cent of the original cost. A more complicated sum-of-the-digits depreciation rate allows an even faster rate of capital recovery.

On the purchase of a machine having a ten-year life, the old straight-line method allowed deductions of 50 per cent of the cost in the first five years. The new declining balance method gives you 67 per cent of the cost as a charge-off in the first five years and the sum-of-the-digits method gets 72 per cent of your money back against taxes in five years.

The advantage of faster deductions does not depend on reinvestment of the added cash received in the early years; it exists even though this cash is withdrawn from investment entirely. In this case, the gain appears in the form of a higher rate of after-tax return on the investment in the depreciable asset itself.

For example, a return of $1,100 a year from now on an investment of $1,000 today means a rate of return of 10 per cent a year. But if the

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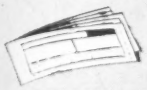

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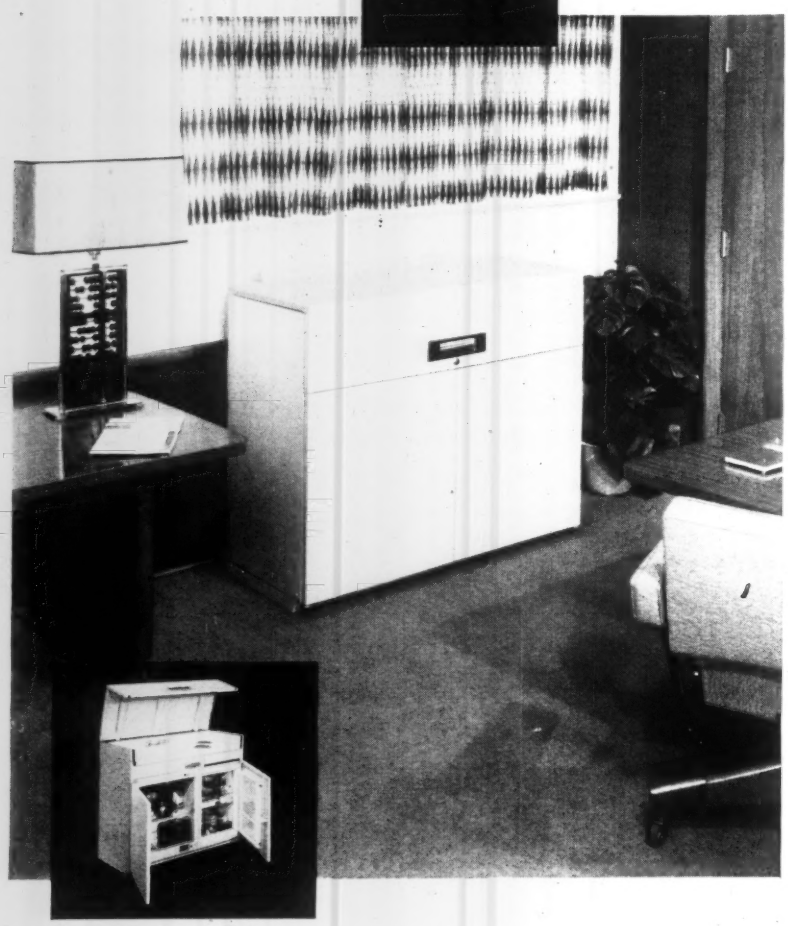

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$1,100 return materialized in six months, the rate of return would be 20 per cent, and so on. Similarly, a faster return of capital through the use of accelerated depreciation means a higher rate of return.

An increasing number of corporations are acquiring new plants or raising working capital without increasing debt or issuing stock by using the sale and lease-back technique. They either get new cash by selling existing plant and leasing it back or they avoid tying money up in new brick and mortar by having an investor put up the money and lease the property to them. This may give the corporation an annual rent deduction considerably larger than the depreciation deduction it would have if it owned the property. This is due to the fact that the rent deduction reflects land value and any appreciation of the building value, while depreciation does not. In this kind of a transaction, the operating corporation is easing its financing problem and may be getting a tax advantage. It is also trading on tax and investment advantages made available to the investor who puts up the money. He has a property producing a higher and safer return on his investment than most conventional securities. And for tax purposes, he can take the regular depreciation on the property though the maintenance and upkeep costs are left to the lessee. As owner he can also, of course, mortgage the property subject to any prior debts he may have taken over in the purchase. He gets depreciation deductions based on the mortgagee's money.

Sometimes a company can get an advantage in the net cost of physical plant by leasing from a landlord who is in a tax-protected position. Thus, some municipalities raise money by offering individual investors their tax-exempt municipal bonds. The tax exemption reduces the interest cost, and the saving is reflected in the rents the municipality charges for the use of plants built with the proceeds. Other companies have built or sold plant and equipment to a tax-exempt foundation or to a profit-sharing or pension trust associated with the company.

Accounting Methods

Last year, Westinghouse Electric saved some $12 million in taxes by adopting the "Last In, First Out" tax-

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FINANCING—Community-state industrial building program, lease-purchase.
BUILDINGS—Availability, sizes, location, structural descriptions.
SITES—Acreage, topography, utility services; photos, maps; industrial districts.
MATERIALS—Metals, industrial chemicals, wood, textiles, farm products.
MINERALS—Location, reserves, potentials, analyses.
WATER—Quantitative, qualitative analyses.
POWER—Capacity, network, industrial service, costs.
FUEL—Coal, oil, natural gas service, costs.
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accounting method. That year saw higher labor costs as a result of settlement of a long and costly strike as well as higher costs for such essential materials as steel. Shifting the accounting method made it possible to report lower taxable profits. In a period of rising costs, any company can, at least temporarily, strengthen its cash position by electing to reduce taxable profits by the cost of goods most recently acquired, presumably at higher prices, instead of by the cost of the earliest inventory acquired. Under present laws, this saving may be wiped out by a sharp recession in prices because a company loses the privilege of marking its inventory below cost down to current market value when it adopts the LIFO method. However, for many companies this is a case of cash in hand being a first consideration, and legislative relief or skilled accounting and inventory management may avoid a cash loss in a declining market.

Here are some other examples of tax savings available through alert accounting:

A manufacturer postponed $250,000 in taxes indefinitely by pricing inventory at cost instead of sales price.

A novelty manufacturer switched from expensing dies, stamps, and jigs to capitalizing them because he saw higher income and taxes ahead.

A cotton goods manufacturing company moved its semi-annual revision of its standards (for valuing inventories at standard costs) from January to December. This step took the reflection of cost increases in closing inventory into additional income in the earlier year. Income was accelerated away from higher rates due in the following year.

A newly incorporated business adopted a fiscal year that gave it a short first year, thus getting two $25,000 surtax exemptions in less than two years.

An apparel manufacturer recovered from an overextended financial position by accruing future expenses, scrapping inventory, changing its fiscal year and getting operating cash by the carry-back of losses created.

Sales Policy

The method of handling sales can control the time when income must be reported and taxes become payable. For example, by deferring the passage of title on goods sold from December 31 to January 2, additional cash in the amount of the taxes on the profit resulting from the sale may be retained in the business. Income from sales may be accelerated or deferred by varying the contractual arrangement with the customer. Also, since sales income is usually accruable when title passes, the time of reporting income may be controlled by accelerating or deferring the passage of title.

For example, when goods are sold on consignment there is no tax on the income until the goods are sold by the consignee to his customers. On the other hand, a business that sells on a consignment basis can accelerate income into an earlier year by shifting to an open account basis of sale. This might be done, for example, to use up an operating loss that is about to expire.

THE AUTHOR • William J. Casey practices law in New York City, specializing in tax and financial matters. As Chairman of the Board of Editors at the Institute for Business Planning, Inc., he directs a research staff which edits publications continuously analyzing developments in business tax planning, estate and financial planning, and employment benefit planning. He is author of *Tax Sheltered Investments, Executive Pay Plans, Business Continuation Plans*, and *How to Handle Taxes in a Law Practice*.

Mr. Casey has served as special counsel for the Senate Small Business Committee, as Associate General Counsel of the European Cooperation Administration and, during World War II, as Chief of Intelligence for the Office of Strategic Services in the European Theater.

Another case where the tax result can be varied by the contractual arrangement between buyer and seller is in approval and return sales. The seller agrees that the buyer will temporarily take the goods into his possession, with the understanding that if they are not satisfactory he owes nothing to the seller except the return of the goods. Then there is no tax until the buyer accepts the goods. A different tax result is obtained from substantially the same business arrangement if the seller and buyer agree that the property will pass to the buyer on delivery but that he may return the goods if they are unsatisfactory to him. In that event, the taxable income is realized immediately.

The taxpayer who has been using a contract that provides for sale or delivery with the privilege of return can defer a large slice of his year-end sales by simply changing his contract to provide for sale on approval. Or a taxpayer who has been selling on approval can pick up a lot of additional sales and bring them into a given year by changing his contract to provide for sale on delivery with the privilege of return.

When credits or refunds are made for damaged or unsatisfactory merchandise, the deduction becomes available when the liability is admitted. This usually occurs when a credit memo is issued by the seller to the buyer. The deferment of credit memos can throw deductions into the following year. Quick approval of credits for returned merchandise can reduce the current year's taxable income.

Some businesses are able to defer tax and keep cash in the business by special elections which permit deferment of income. Thus, businesses that regularly sell goods on the installment plan can elect the installment method of accounting for sales, which postpones the tax liability on sales until the cash is received. Also, businesses selling items worth $1,000 or more may, from time to time, if the circumstances surrounding a particular deal permit, take less than 30 per cent of the sales price in cash and report their gain only as and to the extent they collect cash.

Businesses that perform long-term building, installation, or construction contracts may elect to report income as they complete the work, or only as and when an entire job is completed. The latter choice permits them to take in cash against the contract, use all of it in the business without reporting it and paying the tax until performance of the contract has been completed.

Tax factors may also be an important influence in stimulating sales. Thus the volume of a machinery business may be considerably increased by showing customers the tax advantages in leasing the equipment rather than buying it. Also, setting the terms of payment on new sales to match the more rapid depreciation now allowed on new equipment has been used by machine tool builders to stimulate sales and by financing companies to create banking business.

A flip of the switch...a press of the button...

LOOK, NO HANDS

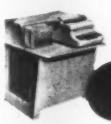
Auto-typist eliminates routine typing and dictation...by automation

Auto-typist brings you office automation! It's the fastest, most accurate way to handle all repetitive correspondence . . . and it's true that well over half of general office correspondence is routine, or follows a standard form. Sales letters, order acknowledgments, answers to inquiries, collection letters, just to name a few, can be handled efficiently *and economically* by Auto-typist. Any one of your girls can turn out 125 letters a day with an Auto-typist—3 to 4 times normal manual typing output. Any standard office typewriter can be converted into an automatic typing machine—and one average typist can operate as many as four Auto-typists.

How Auto-typist works . . . Carefully prepared letters or paragraphs are perforated on a paper roll which operates the typewriter keys . . . similar to a player-piano roll. Twenty or thirty complete letters can be included, or a series of paragraphs which can be combined to make up many letters.

Salutations are manually typed, then, by merely pushing the numbered button or buttons that correspond to the letter or paragraphs desired, Auto-typist automatically picks out the letter, or assembles the paragraphs in proper order, and types it *perfectly!* Manual insertions can also be made at any point desired.

The Auto-typist method . . . the perfect push-button method of typing automatically...offers definite savings to every cost-conscious organization. Write for free booklet.



Auto-typist

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2323 N. Pulaski Road, Chicago 39, Illinois

Gentlemen:

Please send me a copy of "Quality with Quantity through Auto-typist Personalized Letters."

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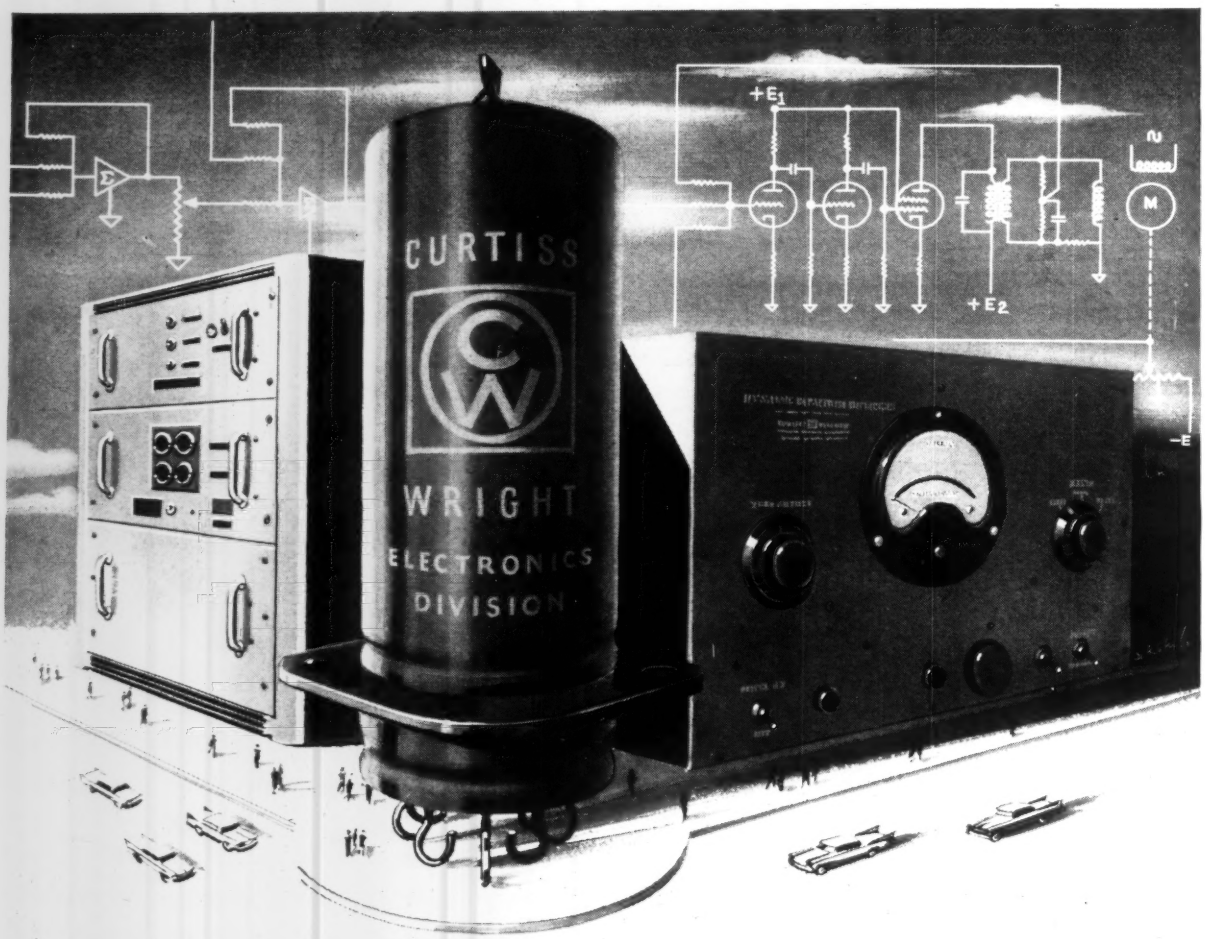
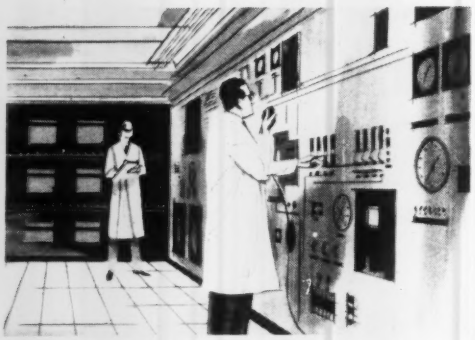
MANUFACTURERS OF AUTO-TYPIST, COPY-TYPIST AND CABLE-TYPIST



CONTROL CENTER *for complex electronic circuits*



Many of today's most complex electronic systems—the type used in nuclear reactor control, for example—only work effectively when power is extremely pure, when on-off circuits are accurate and hair-triggered, and when there is capacity to measure the nearly unmeasurable.

This calls for control centers built around advanced-design components from Curtiss-Wright's Electronics Division, such as (left to right above): the Distortion Eliminating Voltage Regulator, which purifies power at the source . . . the "Snapper" Thermal Time Delay Relay that tells important voltages when and when not to flow . . . the Dynamic Capacitor Electrometer, which can measure currents as slight as those that pass from one of your fingers to the other.

In electronics, as in aviation and other advanced engineering and scientific fields, Curtiss-Wright is finding new and better ways to get important jobs done.

Electronic Equipment by

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CURTISS-WRIGHT

CORPORATION • CARLSTADT, N. J.

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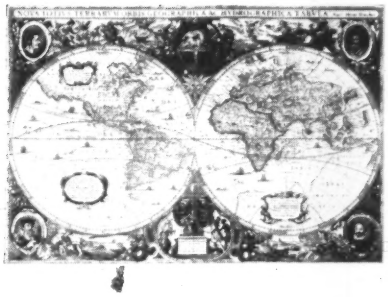
INTERNATIONAL MARKETS



ALEXANDER O. STANLEY, *Editor*
MARION L. WEAVER, *Staff Assistant*

KNOW YOUR EXPORT SALES TECHNIQUES

Hidden exports of your products may be damaging your trade name, jeopardizing your trademarks, undermining your sales structure. Awareness of export practices will help you to formulate sound policies, avoid or reduce future problems, whether or not you eventually enter the export field.

IF YOU ARE typical of nine out of ten U.S. manufacturers, your sales activity is purely domestic, apparently far removed from overseas markets. But you may be due for a shock. At this very moment your products may be on sale in *almacenes* (stores in Latin America), *magasins* (retail shops in France), *bazaars* (marts in the Far East). And the prices might stagger you. Each day, thousands of U.S. manufactured products are being bought for eventual shipment to one or more of the 76 markets of the free world. These are the hidden exports; yours may be one. You can shrug off the implications, consider yourself lucky that you are not exposed to the headaches of export. But what's happening to your trademark, your trade name, your competitive position? And what if you finally decide that exporting can be a profitable extension of your sales program, only to find that your product has been overpriced (or underpriced), misrepresented, and that customer ill will has been generated because of lack of service or indifferent merchandising? Today, hundreds of U.S. manufacturers find that exports are protecting, even expanding, their profit margins. And this direct contact with overseas markets is also helping them to check on international competition, observe the technical innovations and improvements developed beyond our borders. The four basic patterns of exporting reviewed here indicate the latitude in operation, and the facilities available to help you create a sound export policy . . . or program.

The busy domestic scene captures our interest; it's near, it's clear, it's calculable. And because our economic system gets more intricate each day, management has had to divide its functions and operations into sharply delineated lines of command and control; for to specialize is to survive the competitive race. This necessary division of authority may engender a negative attitude towards international trade. To saddle the hard-pressed executive with the job of assimilating foreign techniques and practices seems impossible. And potentials on surface examination may look thin.

The problem is compounded by several discouraging factors. The potential foreign customers speak many different languages, they trade in many different currencies (around 80), their buying habits differ from ours, they are not conditioned to respond to the built-in psychology in our product advertising (in Switzerland they don't allow TV commercials!). And finally they splinter off into many separate marketing groups presenting tough problems in research, marketing, advertising, transportation, credits and finance.

Domestically our actual and potential customers are carefully tabulated, they are reduced to statistical formulae, so that the "scientific sample," adjusted to the different strata of income, tells us how the many will react based on the responses of the few. This high-powered and sensitive mechanism is obviously necessary in a country which, with less than 10 per cent of the world's population, produces and absorbs almost 50 per cent of the world's materials. But when the rules are applied to foreign markets, confusion sets in. To classify 90 per cent of the world's population into prescribed groups—income or otherwise—is to court trouble. Statistical methods and available data are enough to make even the hardiest researcher blanch. Variety in computation and frequent footnote references are the order of the day. In time, in measure, in weight, equivalents are elastic and common denominators difficult to establish. Finally, the individual foreign markets are small in

sales scope, based on short-term potentials.

These are some of the unpleasant facts. But today's lean statistic may be cultivated into tomorrow's sale.

To accept the idea that export techniques are an enigma, understandable only to the initiated few, is an expensive fancy. From the positive point of view consider that thousands of U.S. manufacturers are *directly* or *indirectly* involved in the business of international trade today. They will export some *$14 billion* of their products in 1957 to 76 key markets of the world. *And many of these companies will not even have an export department!*

The apparatus for processing export orders on a piecemeal basis exists —in fact, you may already be using it. The port cities of the United States abound with exporters. Some may be your customers—buying your goods for overseas delivery. This may be a clue to why you receive letters of inquiry from foreign dealers who seem thoroughly acquainted with your products, want to develop a more streamlined connection. And sometimes your advertising message in U.S. consumer magazines or trade papers finds its way abroad, may stimulate a rash of inquiries. What you have to resolve is what to do with these direct inquiries. It's possible that your products may have only a limited potential abroad. But to guess on this point is to play a form of roulette. Like all other business problems, this has to be faced squarely, examined methodically. To research the 76 key world markets would be expensive in relation to pragmatic results. Studying U.S. Department of Commerce Export Statistics might flush out the desired information but many products are grouped in "basket" categories and impossible to extract. And these data are still inconclusive, for the fact that a specific product *is not being exported does not mean it cannot be exported.* And the U.S. statistical report is too narrow in scope, does not yield any information about what your foreign industrial competitors are doing in potential export areas.

Possibly the solution lies in actually exposing your product to export effort. This can be done through a controlled program without much expense in time and money and without setting up an export division. *You can get into the export business virtually overnight if you know where to look for help and use existing facilities.* To this end the several types of export sales organizations are reviewed below, and the results possible with each are examined. Whatever criticism is expressed of the several techniques is based on the purely objective point of view that *logically* the best test, the best results, should be attained by direct and complete participation in the overseas markets by the individual manufacturer. No one is more interested in your products than yourself. But competence, developed through exposure and experience, is sometimes easier to hire than acquire. At worst, you may find that your products have no export market now or in the immediate future; at best, the program may open up new and profitable channels of trade.

The Exporter:

Look in the yellow pages of the classified telephone directory of any port city and you will find scores of exporters listed; the larger the port, the greater the number. The trick is to select the few who can merchandise your product effectively. In terms of staff and financial strength they range from the proverbial "office-in-the-hat" variety to solid, extensive organizations well equipped to sell, to ship, to absorb smoothly the many chores of the export transaction. But organizational size alone does not insure success for your product. The exporter, understandably, will select for emphasis those lines that are susceptible to high volume and/or high-profit yields. So sometimes your product can be lost in the shuffle. To paraphrase, many are carried but few are chosen. Of course, you can reduce the risk of sales oblivion by selecting exporters who specialize in fairly tight categories. But the soft spots to consider are these: (1) The exporter may be handling competing brands already. (2) Not all overseas sales areas are adequately covered by any one organization. (2) The exporter may qualify on the first two points but may not have sufficient capital resources to keep up a sustained sales drive on *all* products handled. But console yourself; the risk is considerable on his part and odds average out that some sales will develop if your product has any marketability abroad. Also, you are not committed to any one exporter; you can range the field and experiment all you wish with

GUIDE TO SOURCES OF INFORMATION AND SPECIALISTS IN INTERNATIONAL TRADE

A. U.S. Department of Commerce, Bureau of the Census, Foreign Trade Division, Washington 25, D. C. or nearest field office.
B. U.S. Department of Commerce, Bureau of Foreign Commerce, World Trade Information Service, Washington 25, D. C. or nearest field office.
C. Chamber of Commerce of the United States, Foreign Commerce Department, 1615 H Street NW, Washington, D. C.
D. International Advertising Association, Hotel Roosevelt, Madison Avenue at 45th Street, New York, attention: James L. Gilbert, Executive Vice President.
E. American Marketing Association, 27 East Monroe, Chicago 3, attention: W. C. Gordon, Jr., Executive Director.
F. International Chamber of Commerce, U.S. Council, Inc., 103 Park Avenue, New York.
G. Customs Brokers & Forwarders Association of America, Inc., 8–10 Bridge Street, New York 4.
H. New York Foreign Freight Forwarders & Brokers Association, Inc., 18 Pearl Street, New York.
I. Polk's Bankers Encyclopedia, R. L. Polk & Company, 431 Howard Street, Detroit 31.
J. Bankers Directory, Rand McNally & Company, 8255 N. Central Park, Chicago.

General Information: See *Foreign Commerce Handbook* published by C. Also considerable information from B and other U.S. Department of Commerce Divisions.
Translators' Services: Names or lists of competent translators usually available from foreign trade clubs or local Chambers of Commerce with foreign departments.
Advertising Agencies: Lists from D.
Media Representatives: Names of New York representatives of foreign newspapers, magazines, radio, and television stations available from D.
Marketing and Research Services: Lists available from D and E.
Statistical and Research Data: Monthly analysis of U.S. exports by products and country of destination available under subscription from A or nearest field office. Ask for *Report No. FT-410.* Annual comparative statistics on U.S. international trade reviewed in Section 34 of *Statistical Abstract of the U.S.* published by A. Individual market studies released periodically on almost all countries of the world available from B. Ask for *Statistical Reports.*
Distributors or Sales Agents: Weekly lists released in *Foreign Commerce Weekly* published by B. Special lists on some countries, certain products, also available from B. Also refer to *A Guide to Foreign Business Directories* published by B. Also for *Trade Directories of the World* available in loose-leaf service refer to Croner Publications, Queens Village, L. I., N. Y.
U.S. Chambers of Commerce with Foreign Trade Departments: Published under designated section in *Foreign Commerce Handbook* available from C.
Foreign Chambers of Commerce with or without U.S. Branches: Available from C in their handbook under that designation. Also available from F.
Foreign Trade Clubs in the U.S.: See section under this heading in handbook published by C. Also refer to *National Associations of the United States* published by A.
Freight Forwarders: Lists from G and H.
U.S. Banks with International Divisions: Designated in directories published by I and J. If complete lists are not required, your local bank will inform you of nearest bank with foreign division.

KEY TO CREDIT TERMS USED IN INTERNATIONAL TRADE

C.A.D. Cash against documents at port of entry; similar to sight draft documents against payment.

C.A.D. N.Y. Cash against documents in New York.

Cd. Sl. Conditional sales (installment sales contracts or hire-purchase agreements) under which title to merchandise remains in hands of seller until debt has been completely liquidated.

C.I.A. Cash in advance.

C. in N.Y. Cash in New York.

C.R.M. Cash by return mail; sometimes also referred to as "Cash on Receipt of Merchandise"—to all intents an open account transaction with some time limit.

C.R.S. Cash with order.

D. or Disc. Discount for payment of goods within discount period.

30–180 D/D 30 to 180 days date draft—maturity counts from date of draft, irrespective of acceptance date.

2 Yr.CD.SL. Two-year conditional sales contract.

DFT/a Draft attached—the bank draft and documents are sent to the collecting bank, which releases them to the buyer on *acceptance* of draft.

Ds.Dft. Either sight or date draft.

90 Ds.Nts. 90-day notes; similar to trade acceptance.

10 E.O.M. Similar to open account with maturity ten days after the end of that month in which purchase is made. Ordinarily this provides about 30 days' credit.

E.O.S. Season's dating; payment is made at end of season.

Irrev.L/C Irrevocable letter of credit.

L/C Letter of credit.

O/A Straight open account.

30–120 O/A 30 to 120 days open account.

S/D Sight draft—ordinarily with documents attached and released against payment.

S/D D/P Sight draft, documents against payment.

30–180 S/D 30 to 180 days' sight draft with maturity period beginning from date on which draft is accepted by customer.

T/A Trade acceptance.

90 T/A 90 days' trade acceptance (notes maturing within 90 days).

DFT/c Draft clean. Bank draft and documents sent direct to buyer *clean* of acceptance. Buyer then submits the draft to the collecting bank with his acceptance or endorsement. This is virtually an open account transaction and is given only to the most reputable accounts, or where a preexamination of the merchandise is particularly necessary before acceptance of the order.

only a limited investment in time and little or none in capital. The real risk to you is that with this casual approach you may miss the boat, literally as well as figuratively. It is a form of marketing research that is inconclusive, likely to lose you markets and confuse you in the long run. But even this minimal exposure to export is better than none.

Actually another line of approach is used with some frequency. The exporter, rather than you, takes the initiative. For one thing, he may receive an open order from his clients abroad for your type of product and will ask your company, among others, for bids. Or he may anticipate a need for your products in specific areas familiar to him, and ask you for sales literature and prices. The literature will go abroad under his own imprint; he will revise the prices, usually upward, to suit himself.

Acting as middleman, he has only a transient interest. It will flag or flourish to the degree that customer reaction is spontaneous. You can't blame him. His survival depends upon finding products that can squeeze through overseas import and dollar exchange barriers. Since these controls constantly expand or contract, his stock in trade is variety, his pragmatic policy—find the product to fit the market. It's an exciting and dangerous game. The quick shift from market to market, the quick discard of products are part of the technique. The bumpy road to export markets is strewn with product casualties. It's no wonder that many companies take a dim view of this frenzied system. But at the root of the problem is the simple fact that exporting by proxy may save you some bruises but will distort your sales-vision. To cap it all, numerous exporters have broadened the scope of their activity to embrace imports as a countervailing measure to develop dollar revenue from exchange-poor markets. So in addition to being experts in exports they now are required to find *domestic* markets for foreign goods. This fast by-play keeps their staffs *and their capital* fully employed. In this melee your own persistence in interest will substantially determine whether your goods will be shelf-bound or outward bound to the markets of the world.

Without a doubt selling through the exporter offers the most painless way to get your goods to markets abroad. Every phase of your transaction with him is purely domestic, follows orthodox lines of domestic sales and distribution practices. And your credit risk, if any, remains a domestic one based on domestic values. But what you gain on one realized sale you may lose on many unrealized sales potentials. Each transaction with him is a closed book. You don't know where your goods go, at what price, under what conditions. And rights to your trademark name may be jeopardized in areas where protection is acquired only through registration. You may be planting problems instead of profits.

Resident Agents

Resident buying agents, both private and governmental, provide a less hectic approach to overseas markets. Foreign department store chains, mining companies (many U.S. owned), transportation systems, among others, maintain buying offices for the express purpose of obtaining a wide range of requirements for shipment to overseas headquarters or affiliates. Foreign governments, too, usually through their embassies, are interested in scanning new products although their field of activity is somewhat limited.

These agencies offer one means of getting your products introduced overseas. But results cannot be used for a broad estimate of the export marketability of your goods since there are relatively few buying agencies functioning. And if your product is dropped for any reason you lose a whole market (or markets) overnight. The agents are useful as a supplement to exporters; but as a sole effort, this sales technique is dangerous.

CEM's

A more streamlined approach exists in the combination export manager. As defined by the International Cooperation Administration (a U.S. Government agency) "The Combination Export Manager is a competent export executive (or firm) who, instead of serving one large employer, elects to render the same services divided among several firms. Since he is normally an independent operator, his principal's status is that of a client, not of direct employer."

This type of organization has attained considerable popularity in the last two decades. It is the ideal compromise between the two extremes of setting up your own export department or blundering through the maze of export entrepreneurs.

Essentially the combination export manager operates as your export division, away from headquarters. While contracts and functional arrangements vary, the following is the typical modus operandi, the basic

services provided to speed your goods to market. Some of the facilities described may seem to have no relation to sales techniques but actually they are vital ingredients in overseas transactions. How the techniques are exercised can make or break the appeal of your products.

1. Contracts are drawn for one or more years, call for a yearly retainer supplemented by bonus or percentage compensation based on sales. The retainer is expanded year by year as sales expand; occasionally it is eliminated, and a sliding scale of commissions substituted. If adequate sales do not materialize, the product usually is dropped.

2. In all sales promotion and advertising, your name is emphasized, is identified with your product. You foot the bills but retain control of the expenses. The headaches of translating sales and technical language are borne by the CEM and the advertising agency he selects. This is one of the more critical areas of activity. Even a label with a simple set of instructions has hidden snares. In food recipes, for example, a cup by any other name is not always a "cup" in measure; and what about a "pinch"? The metric system is widely used; throughout the world "kilos" are more common than pounds. And in Latin America localisms can haunt you. Spanish (except in Brazil where Portuguese is spoken) is the common language, but the varieties are infinite, tempered by local usage. Leave all this to the experts to solve. The fees you pay will be light in comparison to the benefits from well-translated advertising and sales copy.

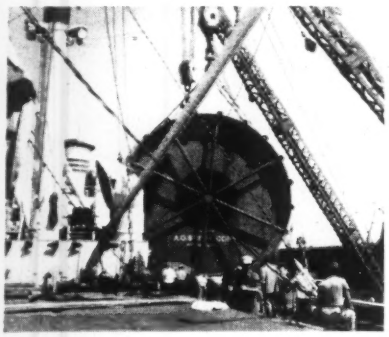
3. Your letterhead will be used, and all export correspondence will bear the imprint: "Address all replies to Export Division" care of the CEM at the latter's address. You will be relieved of all correspondence details, but kept informed. Foreign letters of inquiry or orders inadvertently addressed to you are to be forwarded to the CEM for proper disposition. And if you should get a *domestic* order calling for export packing or delivery to dock-side or involving measurements or specifications unusual in the domestic market, pass this along to your CEM. In all likelihood it is an export order and should be processed or rejected by him.

4. Patent and trademark protection in markets abroad is the responsibility of the CEM, but your legal department should be advised beforehand on this part of the program.

5. Packing and packaging for overseas distribution are a highly complex business; follow the CEM's advice precisely. Customs requirements and customers' needs differ in the different markets, and any deviation from instructions can cause trouble. Consider also that in the field of food and pharmaceutical distribution some foreign countries require the filing of formulae before manufactured items will be allowed entrance.

6. Developing distribution outlets, whether wholesalers or agents, is the CEM's stock in trade. He already has an established overseas organization and will decide which are the likely markets for your products. If gaps exist here and there, the probability is that foreign import and or exchange controls are responsible.

7. If your product falls within the range of strategic commodities requiring a U.S. export license, the CEM is thoroughly familiar with



when and how to file. And many foreign governments control imports through a licensing system; your CEM will post you on this important factor. Normally each shipment is covered by a separate license, but the mechanics of following through are comparatively simple, and the CEM usually attends to them.

8. All export shipments require a U.S. export declaration, also foreign consular documents from local (U.S.) offices of the country of destination. This chore will be performed by the CEM or the foreign freight forwarder he designates. Routine within the framework of the CEM services are the actual mechanics of shipping by rail, steamship or air carriers, of onside delivery of your products and of preparation of all the sheaf of documents—bills of lading, insurance papers, and bills of exchange (letters of credit, time or sight drafts)—required to identify and protect your overseas shipments.

9. From this point on, however, you will experience your first direct exposure to export problems, assume your first risk. You must decide how to finance the shipment, and set the collection policy. Whether or not to give credit to the foreign buyer is your responsibility. But even here you can count on help, for the CEM can advise you how his other clients have fared, market by market, customer by customer. At your disposal is a wide variety of terms (see Key on Page 87) from cash in advance to open account. They closely parallel terms with which your own credit manager is familiar. Keep in mind that credit is a sales tool; used sensibly it can improve your competitive position. A rigid, a blanket policy won't work, for credit responsibility is not measured by markets but by men.

In recent times, studies of export credit losses have revealed that *these run at lower levels percentagewise than in equivalent domestic lines of trade*. Partly because of careful credit selection, partly because of restraints imposed by commercial codes advantageous to creditors, credits have rarely been abused by responsible overseas buyers. There are delays, but odds are these are caused by dollar exchange difficulties. The money is on deposit in *local currency* with the local bank, but clearance may be impeded by exchange regulations which are constantly in a state of flux. Here too you can lean heavily on the CEM for advice. And your own bank, in its foreign division (or through correspondent banks) keeps tabs on this factor. Of course the irrevocable letter of credit (equivalent to a certified check) can eliminate your credit risk but it may compound your sales problems. Remember that the foreign buyer has to wait weeks, months, for delivery of your goods. While these are in transit his working capital is tied up. The case for reasonable credit facilities is strong, the risk of eventual loss slight. Practically speaking, a patient attitude towards collections is wise, will yield loyal and profitable customers. The credit you give today will build your sales tomorrow.

If you regard your relationship with the CEM just as you would your contract with, say, your advertising agency, it becomes quickly apparent that basically each offers an advisory

(ADVERTISEMENT)

As a service to its readers, DUN'S REVIEW AND MODERN INDUSTRY prints the following listings which are submitted without recommendation or commitment on its part. Rates for listings on application.

TO BUY

CANADA

0136 Manufacturers agent wishes to purchase direct good-quality men's and women's orlon sweaters, full fashion, four-ply, slipovers and cardigans. HORACE THOMPSON, 230 Cambie, Vancouver, B. C.

GERMANY

0137 Will purchase direct all kinds of forklift truck attachments, from 1,000 to 30,000 lbs. capacity. Also interested in entering into licensing agreement with a U.S. firm for the production of forklift truck attachment in Germany. MASCHINENFABRIK ESSLINGEN, P. O. Box 85, Esslingen a. Neckar.

NEW ZEALAND

0138 Wish to purchase optical goods direct from manufacturer: spectacle frames, optical instruments, etc. with a view to act as sole distributor. J. LOWINGER & CO., LTD., 30 New Regent St., Christchurch.

PARAGUAY

0139 Wish to purchase direct or obtain agency for good quality cotton, rayon, and synthetic piece goods for men's and women's wear. GRASSI y CIA. S.R.L., Presidente Franco 323,25, Asuncion.

SAUDI ARABIA

0140 Wish to purchase direct or obtain agency for automotive spare parts. Please submit catalog and price information. HUSSEIN HAMMADI CORP., P. O. Box 332, Jidda.

THAILAND

0141 Wish to purchase direct complete canning plant and equipment for ready operation. VIDHAYAKOM CO., LTD., 2 Chakrapetch Rd., Pak Klong Talad, Bangkok.

TO SELL

CUBA

0142 Export direct or through agent, 1,500–2,000 tons of first and second-grade charcoal in ⅛-inch lengths, average diameter ½-inch. OSCAR ASTUDILLO ROJAS, 65–67 Lamparilla St., Havana.

ENGLAND

0143 Wish to export direct furniture, including cabinets and upholstered goods such as settees, easy chairs. Also will manufacture to designs submitted by customers. EVEREST LTD., Long Eaton, near Nottingham.

FRENCH CAMEROONS

0144 ANIMAL HORNS AND BONES FOR DIRECT EXPORT OR THROUGH AGENT. COMPTOIR FRANCO AMERICAIN, B.P. 450, Douala.

GERMANY

0145 All kinds of costume jewelry, and dress and hat ornaments, made of tombac, glass and plastic materials, with rhinestones and colored glass stones. ROBERT KOEHLER, 28 Weissensteiner Strasse, Schwaebisch Gmuend.

0146 Export direct or through regional agents (except New York State) large quantities of chalk-white and glass-beaded costume jewelry. LAURUSCHKUS & CO., 17 Bachstrasse, Schussenried, Wuerttemberg.

INDIA

0147 Handicrafts for direct export include bullion embroideries, art brassware, ivory works, horn and wood carvings, silk scarves and saris, fancy footwear. LACHMAN DASS & SONS, 39 G. B. Road, Delhi.

ITALY

0148 Wish to export direct gabardine raincoats of cotton, wool, silk, and nylon; also coats of carded and combed wool, for men, women, and children. CONFEZIONI LINEXTER, 2 Piazza Ristori, Empoli, Florence.

0149 BRASS HOSE NOZZLES FOR DIRECT EXPORT—CAN SUPPLY 300,000 MONTHLY. SAMPLE AVAILABLE. IMEXTRADE, S.r.l., Via Fratelli Ugoni, 32, Brescia.

IRELAND

0150 Handmade model railway constructions, including carriages, stations, bridges and tracks, for direct export.
DAVID COLAHAN, 14 Cook St., Cork.

LIECHTENSTEIN

0151 High-quality ORION hand knitting machines for export direct or through regional agents. ETABLISSEMENT VERION, Vaduz.

PERSIAN GULF

0152 Wish to export German-made battery cigarette lighters. YAWUBY STORES, Government Road, P.O. Box 158, Bahrain.

SPAIN

0153 Original paintings in both oil and watercolors for direct export or through agent. BENGT DAHLIN (artist),
Lista de Correos, Madrid.

TO REPRESENT

BOLIVIA

0154 ANACOM S.A., P. O. Box 458, La Paz Representations in all lines.
Export: hides, skins, rubber, woods, nuts, etc.
Import: textiles, sundry, goods, foodstuffs, etc.

DENMARK

0155 Exclusive agency sought for any kind of U. S. transport machinery, including overhead travelling cranes, mobile cranes and crane equipment. THOMAS SCHMIDT, 7 Jernbanegade, Copenhagen.

ENGLAND

0156 Agency sought for telephone and radio communications equipment. I. E. CARRAHER, "Ashwick", Church Rd., Purley, Surrey.

GERMANY

0157 Importer, wholesaler seeks agency, licenses, etc. from manufacturers of automobile accessories, spare parts, household articles, machinery. WALTER VOLLMER, Mannheim-Neckarau.

IRAQ

0158 Wish to represent U.S. manufacturer of all sizes of evaporation type of air coolers. S. H. KILLU & A. A. GABRIEL, Baghdad Hotel Bldg., Battaween, Baghdad.

IRELAND

0159 Interested in representing U.S. manufacturer of equipment for use in underground works on copper ores, as well as all types of plant and equipment. IRISH OVERSEAS IMPORTING & EXPORTING CO., Lyd., 142 Lower Bagot St., Dublin.

KUWAIT

0160 AGENCY SOUGHT FOR REFRIGERATORS AND WATER COOLERS.
IBRAHIM & HABIB HAYAT,
P. O. Box 172, Merchants Market.

PANAMA

0161 Wish exclusive agency for bottles and jars suitable for containers for medicines, perfumes, alcoholic beverages. FRANK'S AGENCIES, P.O. Box 696, Panama.

PARAGUAY

0162 We want offers on industrial plants for elaboration of yucca capacity 80 ton fresh roots in 24 hours to produce bread-flour and starch. VILLALONGA HNOS., P.O. Box 274, Asuncion.

SPAIN

0163 Importer of surgical and orthopedic equipment, manufacturer-exporter of thermometers and hypodermic needles, wishes to represent chemical, pharmaceutical, and cosmetic laboratories in Spain and colonies. MARIA DOLORES GUELL "VIDRIO CLINICO", Roger de Flor 126, Barcelona.

VENEZUELA

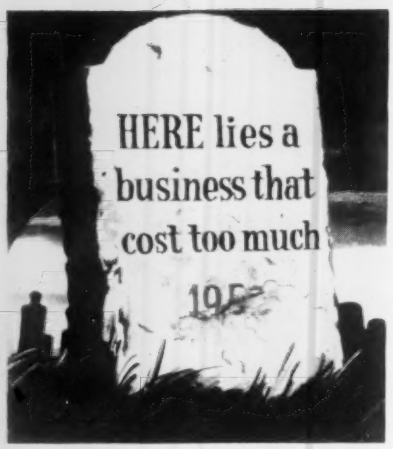
0164 AGENCY SOUGHT FOR WHITE AND PITCH PINE LUMBER. PAR, S.A., Apartado 1834, Av. Urdaneta, Urapal a Candilito, No. 113-1, Caracas.

0165 AGENCY SOUGHT FOR AVIATION EQUIPMENT, SPARE PARTS AND ACCESSORIES. RAYMOND SMITH, EDIF. AMERICA, OFICINA 105, ESQUINA VEROES, CARACAS.

0166 Industrial Chemicals, Raw Materials, Botanicals. Warehouse stocks kept; exclusive agencies for textile auxiliaries, rubber chemicals and others solicited. MAPRI, Apartado 2365, Caracas. Cables: Franrichet.

VIRGIN ISLANDS

0167 Foodstuff, houseware, auto supplies, building supplies, furniture, office supplies, wearing apparel, general merchandise. ALPHONSE ADAMS, P. O. Box 202, Charlotte Amalie, Virgin Islands.



Gone, and soon forgotten, is the business that failed to withstand the squeeze between today's sky-rocketing costs and increasing competition.

And so many died needlessly. For there exists in virtually every organization a positive means of cutting costs . . . actually a vast, untapped source of increased profits. It is the human *will to work*.

The mining of this vast reserve of profitable productivity has been the business of the Sheldon-Claire Company since 1917. By giving management the tools to work with, together with a positive guide for their use, Sheldon-Claire has obtained demonstrable results in thousands of businesses. The 73% of Sheldon-Claire's annual sales volume that is *repeat* business attests to this.

Company size is not a factor. Many Sheldon-Claire customers employ fewer than 20 people, yet others, like DuPont and G.E., employ thousands. The cost is less than the price of one cup of coffee per week per employee.

New Manual outlines plan . . . is available to men of management

This book tells the complete story of the Sheldon-Claire plan — exactly what it is, how it works, and what it will do for you.

Ask your secretary to attach this coupon to your letterhead and we will be pleased to send you a copy.

THE SHELDON-CLAIRE COMPANY
540 N. Lake Shore Drive
Chicago 11, Ill.
Attn: Mr. J. C. Morgan Jr
Please send me without cost your Management Manual "Profitable Productivity".
Name_____
Position_____
Firm_____
Address_____
City_____ Zone____ State_____

and technical service. You still need a moderator, one of your own company executives, to translate your policies, problems, practices to the account executive on the staff of the CEM. You will get out of the relationship pretty much what you put into it. Also, you can use it to groom one of your own management men for the day when and if you decide to go into direct exports, establish your own export division.

If the average CEM drops products because they are sales risks, it's equally true that manufacturers drop CEM's because sales or potentials have outgrown the latter's facilities. Some companies retain the CEM on a part-time basis to cover markets where volume is low, and where consolidating sales and shipping costs for related lines continues to offer competitive advantage.

The Export Division

But let's assume you are now ready to control your own export destiny in the 76 varieties of overseas markets. And so you establish the export division or even incorporate a separate company, wholly owned, bearing your name with the suffix ". . . International." You have at least three fundamental choices: (1) Draw from your own ranks a man capable of acting as export manager, and consolidate all export activities under his control. (2) Split up all activities among your present management group, assigning export advertising to your domestic advertising executive, export sales to your sales manager, export credits to your credit manager, export shipping to your shipping manager; then appoint one key executive as coordinator. (3) Go outside your organization to shop for the best available export talent in your field. All these procedures have been used by many U.S. concerns with varied results; here again it's the old story of the right man for the right job.

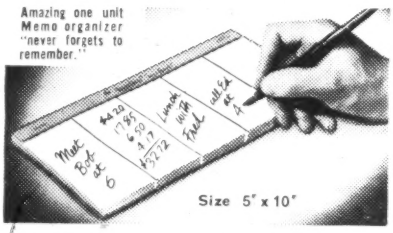
Whatever the management structure, much of the load will be eased if outside specialists assist your executives.

Assistance from Specialists

If the bugaboos of exporting have in the past deterred many U.S. companies from opening export divisions, they have, at least, encouraged the creation of a corps of specialists here who can provide services in almost all phases of export activity. These

NEW DESK Expediter
Reg. U.S. Pat. Off.

INCREASES OFFICE EFFICIENCY



The single *Expediter* unit replaces all miscellaneous paper cluttering up the desk. Organizes important memos and notes in one place. Speeds work through! Saves time! Unit holds 400 slit-apart memos (perforated at top), up to half year's use. Discourages wasting costly stationery and forms for scribbled notes. Pays for itself in efficient cost-cutting operation. Put an *Expediter* on every employee's desk and see for yourself!

Only $8.10 per doz. (Minimum order)
Send No Money! We'll Bill You!
SATISFACTION ASSURED

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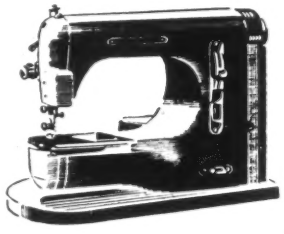
THE HAGUE—HOLLAND

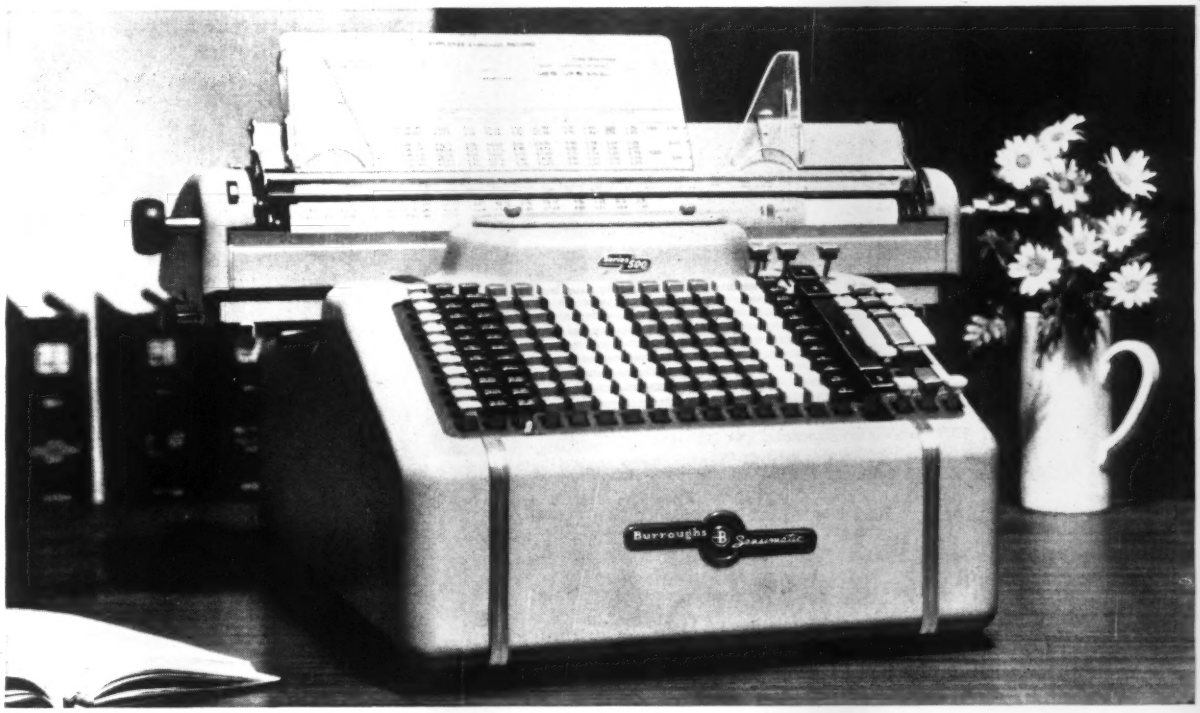


Manufacturers of
ELECTRIC SEWING MACHINES

Importers interested apply to
FRIDOR—THE HAGUE

Big-like Bulova Watch Co.

Or small-like Green Turtle



You'll cut accounting costs with the Burroughs Sensimatic

Big *and* small businesses applaud the speed and economy of the Burroughs Sensimatic Accounting Machine. Both Bulova Watch Company, Inc. and Green Turtle Restaurant—far apart in volume and kind of business—use Sensimatics for top bookkeeping efficiency.

Just look, for example, at what a Bulova spokesman has to say: "We enjoy many advantages from our Sensimatics—especially speed, simplicity, and ease of operation in handling such accounting jobs as Payroll, Accounts Payable, Shipping, Credit Union, and Precious Metals Controls."

Mr. Joe Adeeb, owner and manager of the Green Turtle Restaurant of Jacksonville, Florida, also speaks highly of the Sensimatic:

"We particularly like the speed and accuracy of our Sensimatic. It enables us to post our General Ledger daily, and makes it possible for us to mail statements promptly, instead of 10 or 15 days late as with hand accounting. We feel that this extra efficiency makes our profit picture brighter."

Testimonials like these point the way to lower accounting costs for your business. They prove that it's worth your while to investigate the Burroughs Sensimatic. Sensimatics come in six series, with from two to 19 totals—a model designed to fit every business. Demonstration? Just call our local branch office, or write Burroughs Corporation, Detroit 32, Michigan.

"Burroughs" and "Sensimatic"—Reg. TM's

Wherever There's Business There's

Burroughs

OVER 50 YEARS of Engineering and Manufacturing Experience

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A system of roller and belt conveyer handling incoming and outgoing merchandise in a modern mail order depot.

It was over 50 years ago that the first Mathews Conveyers were designed and built—and from that early equipment has come the development of the Mathews **continuous flow** conveying systems of today. In these 50 years Mathews engineers have developed a complete line of gravity and power conveyers and special conveying machinery to serve nearly every class of industry in the United States and Canada. Whatever is required in the way of modern conveying machinery, you'll find that Mathews has it, and that Mathews Conveyers are your best buy.

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MATHEWS CONVEYER COMPANY, LTD. . PORT HOPE, ONTARIO

MATHEWS

Fifty Years of Leadership in Mechanized Handling

services are generally for hire on a piecemeal or contract basis:

Translation Bureaus. Spotted throughout the country are translators for general correspondence work in every conceivable language. Names are obtainable from local consulates, chambers of commerce, language schools, and even the telephone directories. For technical and promotional translations, it might be desirable to use the facilities of larger translation bureaus in the key port cities; also consider the services provided by U.S. export publications circulating foreign language editions.

Advertising and Sales Promotion. Almost all first-line advertising agencies maintain well staffed and experienced international divisions, some with branch offices abroad. There are a number of organizations, most of them located in New York, that provide service to smaller advertising agencies throughout the country. Such a concern acts as an agency's agency in the export field, and also provides direct services to larger clients. These organizations know the techniques; they know the media. Foreign newspapers, magazines, and radio and television stations are represented in the United States by experienced organizations that can provide considerable assistance in programming your advertising and promotion efforts. And typesetting facilities in almost all the languages (even in hieroglyphics) are on tap.

Sales. This is a somewhat more difficult facility to acquire. The Department of Commerce has available lists of foreign sales agents and distributors in almost any line, by country. It also publishes weekly lists of individuals and firms seeking agencies for many different products. Foreign-American chambers of commerce, many situated in New York, also have files on prospective sales outlets, including customers. Foreign consulates, through their commercial attaches or trade counselors, are another likely source. And newspapers, such as the *New York Times* and the *Journal of Commerce*, carry want ads of travelling representatives going abroad on temporary arrangements to seek out prospective local agents and distributors for other U.S. manufacturers. And, of course, there are numerous directories published both here and abroad.

Legal Counsel. The complexities of international law are an important

consideration. Your patents, trade name and marks, sales agreements, tax liabilities are just as much a part and parcel of your business burden as in domestic sales. Legal counsel specializing in this field is available, and should be used by your own legal department.

Shipping. The mechanics of export shipping divide into two major areas: (1) the physical moving of goods; (2) the attendant paperwork required to get your products into overseas channels.

Here the foreign freight forwarder takes over, acts as your liaison with foreign consular offices, the shipping line, the bank. Acting in concert with your shipping department, he specifies the necessary packing procedures, sometimes repacks your shipment at the port of exit to avoid fines or reduce costs through consolidated shipments. There are a large number of freight forwarders. Many domestic freight forwarders have separate export divisions that are well equipped to shunt your goods smoothly from the byways to the high seas.

Financing. Financing exports is getting to be a commonplace activity in the banking fraternity. More and more banks are equipped to paper-process your shipment, arrange for discount facilities if needed, collect your money from the far-flung markets of the world.

Learn by association. Because, in a broad sense, export is a community effort touching almost every aspect of business life, it would be wise to join a foreign trade club in or near your locality. This gives you an opportunity to exchange ideas, hear competent authorities spell out the problems of this fast-growing element of American business and their solutions.

Look to the Long Pull

It has been almost axiomatic that when storm signals are raised in our domestic economy U.S. companies begin to eye overseas markets as a possible solution to sales problems. And when domestic sales are on the rise, exports tend to languish. But the vacillating and expedient approach can cause long-term damage to products and profits. Whether or not your products have markets abroad should be determined by careful, not casual, tests. And look for the long pull—not the quick profit. —A. O. S.

SCRIPTO sells people in places your salesmen can't reach!

Scripto®

FINGERTIP • SELLING

PUT YOUR SALES STORY on genuine Scripto pens and pencils, the kind your customers will take *everywhere!* ADGIF offers you 40 beautiful models—pencils, pens, sets—a complete line! There are 11 sparkling barrel colors . . . two-tones . . . 9 contrasting sales message inks! Use as calling cards . . . door openers . . . in grand openings . . . sales campaigns . . . at conventions . . . to sell jobber salesmen and retail clerks . . . as gifts to plant visitors! *Whether you can spend a few cents or a dollar or more per item, you can afford to use* SCRIPTO!

CLIP COUPON
MAIL TODAY

ADGIF COMPANY A DIVISION OF SCRIPTO, INC.
Post Office Box 4847, Atlanta 2, Georgia

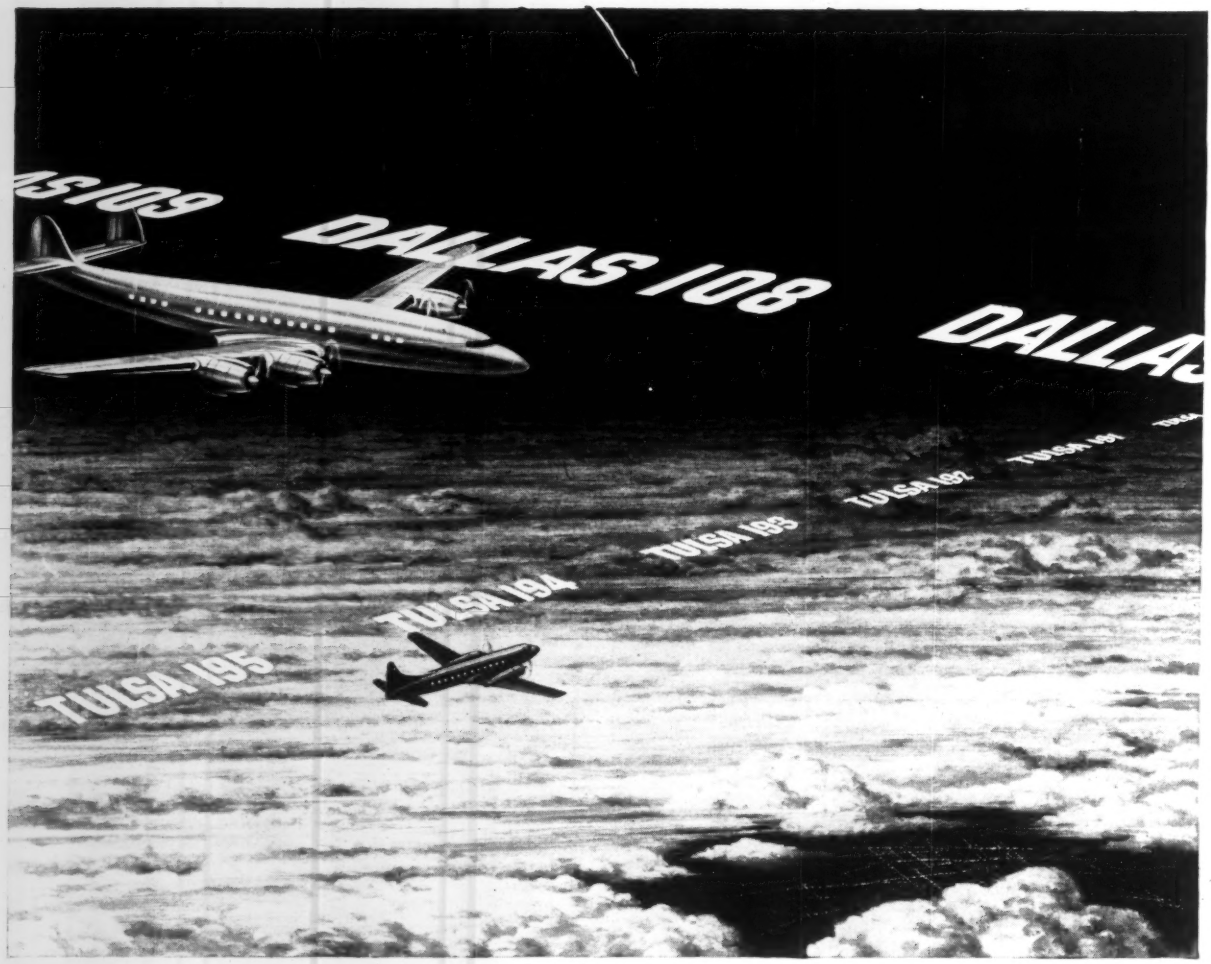
Rush Facts about using Scripto pens and pencils in my sales promotion activities. Please include prices. I understand there is no obligation.

57-31

NAME_____
TITLE_____
COMPANY NAME_____
COMPANY ADDRESS_____
CITY_____ STATE_____

Scripto { *THE WORLD'S LARGEST SELLING LINE!*
OVER 70 MILLION PENS, PENCILS SOLD IN 1956!

Advertising Specialty Salesmen! A few U.S. territories are still available. Direct sales only (no jobbing) . . . protected accounts . . . firm selling prices . . . 80% repeat business. Write in confidence to box number in coupon above.



IT&T now provides—
continuous ELECTRONIC MILEPOSTS IN THE SKY

VORTAC— ***the new, automatic navigation system for all civil aircraft.***

From Federal Telecommunication Laboratories, a division of International Telephone and Telegraph Corporation, came TACAN (tactical air navigation)—to give our military aircraft the pin-point navigational accuracy and reliability, both in distance and direction from a known point, demanded for military operations at jet speeds.

Because the present nationwide navigation system for civil aircraft, called VOR, already provides the directional information, the government's Air Coordinating Committee decided to add the *distance measuring* feature of TACAN—creating a *new* integrated system called VORTAC. Soon all aircraft—private and commercial as well as military—will receive *complete* navigational information from either TACAN or VORTAC.

In the skies, over the seas, and in industry . . . the pioneering leadership in telecommunication research by IT&T speeds the pace of electronic progress.

INTERNATIONAL TEL AND TEL

VORTAC airborne equipment is now available. For detailed information write to Federal Telephone and Radio Company, a division of IT&T, Clifton, N. J.

IT&T

INTERNATIONAL TELEPHONE AND TELEGRAPH CORPORATION, 67 Broad Street, New York 4, N.Y.

zations, indicated that their greatest strengths were making decisions, effectiveness in dealing with people, dependability, taking responsibility for their actions, honesty in dealing with people, and integrity. Their greatest weaknesses were failure to delegate, inflexibility, ineffectiveness in judging people and in getting others' cooperation.

Such an authority as Chris Argyris has suggested the following qualifications, which seem to add up to self-confidence and emotional maturity:

1. Ability to take "knocks"
2. Ability to withstand frustration
3. Ability to be objective in judgments
4. Ability to set realistic goals
5. Ability to accept victory or defeat gracefully.

Another authority, C. Wilson Randle, in reporting the results of a thorough study of 1,427 managers and executives, found the following characteristics significant for all levels and types of managers:

1. Drive
2. Intellectual ability
3. Leadership
4. Organizing ability
5. Initiative.

Randle further found that dependability and high work standards were significant factors for top-, but not lower-level, executives. Technical knowledge was important in engineering, research, and financial management, but not in sales and manufacturing. In general, he found that inadequate executives showed lack of intellectual ability and initiative, and were performing poorly in their present jobs.

From these various survey results, the qualities of the effective executive may be deduced. He is a man who is interested in administration, is dependable, highly motivated, effective in dealing with people, has good judgment, and is emotionally mature.

While the size of the company does not seem to alter the basic qualifications, the job level does. The relative importance of the qualifications has to be determined for each executive position if selection is to be effective. The weight of each factor has to be adjusted to the specific job.

Once what is basic to the job it-

...enough Elbow Room

Everybody benefits when highway location allows adequate space for new industrial development between railroads and public roads. The highway is a major artery, usually difficult or impossible to cross with spur trackage.

The *right kind* of planning by community and highway authorities makes *sure* that: (1) Areas with reasonable prospect of industrial development are protected by modern zoning. (2) Highway authorities plan new construction at *sufficient distance* from rail lines—*200 to 1,000 yards is realistic.*

Orderly construction of grade separations and needed approaches is possible when industrial zoning and highway planning go hand in hand. Then, properties between highway and railroad become more valuable as potential plant sites, and are *assured* the best choice of efficient transportation. The community benefits by NEW jobs and NEW sources of tax revenue—and *every citizen* benefits!

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ON REQUEST FROM
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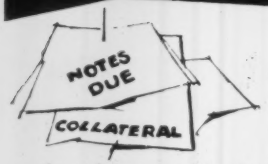
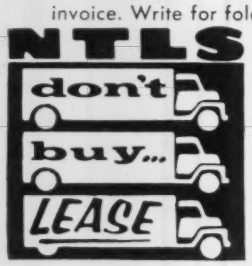
HOW CAN I CONVERT TRUCKS TO CASH?

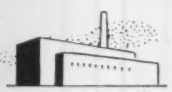


DON'T FREEZE operating and expansion capital in today's "tight money" economy . . . don't tie it up in trucks in *any* money market when full-service NTLS truckleasing furnishes everything but the driver—even your frozen cash! You're released, too, from the headaches of licensing, maintenance, insurance. Learn how you can "own" your fully maintained trucks with a single *cost-known-in-advance* invoice. Write for folder.



National
TRUCK LEASING SYSTEM
23 E. JACKSON BLVD. • SUITE D-3
CHICAGO 4, ILLINOIS
Members in principal cities

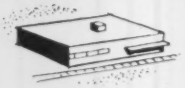
These blue chip companies discovered Southern New Jersey . . . why haven't YOU checked the area?



Automobile manufacturer placed warehouse to serve rapidly growing Delaware Valley.

Refrigerator manufacturer wanted to be close to rich Eastern market.

Purity and yield of ground water helped decide large chemical company. (U.S. Geodetic Survey estimates 2 billion gals. underground untapped.)



Novelty fabric manufacturer and his associates like the living—boating, fishing, leisurely suburban life, near cultural centers.

Among factors "most important" to world's largest producer of insulation materials was "particularly, the character of people in the community."

Chinaware makers sought intelligent, stable labor pool.

For names of these companies and their own comments on Southern New Jersey as a good place to live and do business, write in confidence. Ask for Site Map listing 300 choice sites.

SOUTHERN NEW JERSEY DEVELOPMENT COUNCIL

G. Raymond Wood, Director • 90 Boardwalk Arcade • Atlantic City • Tel.: 4-3338

self has been established, the time has come to search for the man who can fill it. There are many tools for measuring the applicant. Among these are interviews of all types—from the simple factual to the depth, clinical, and group. There are appraisals from present and past bosses and colleagues—written, telephone, and face-to-face. There are tests—interest, personality inventory, projective, judgment, intelligence, attitude, and biographical data. Testing is on the increase in management selection. Thirty per cent of a group of large and small companies surveyed by the Bureau of National Affairs in 1956, used tests in executive selection, compared with 12 per cent for larger and 20 per cent for smaller companies in 1952. And finally, there are performance situations—how a man acts in a committee or conference or how well he handles a special assignment. These diverse methods may provide valuable information that the wise executive can use to increase his batting odds.

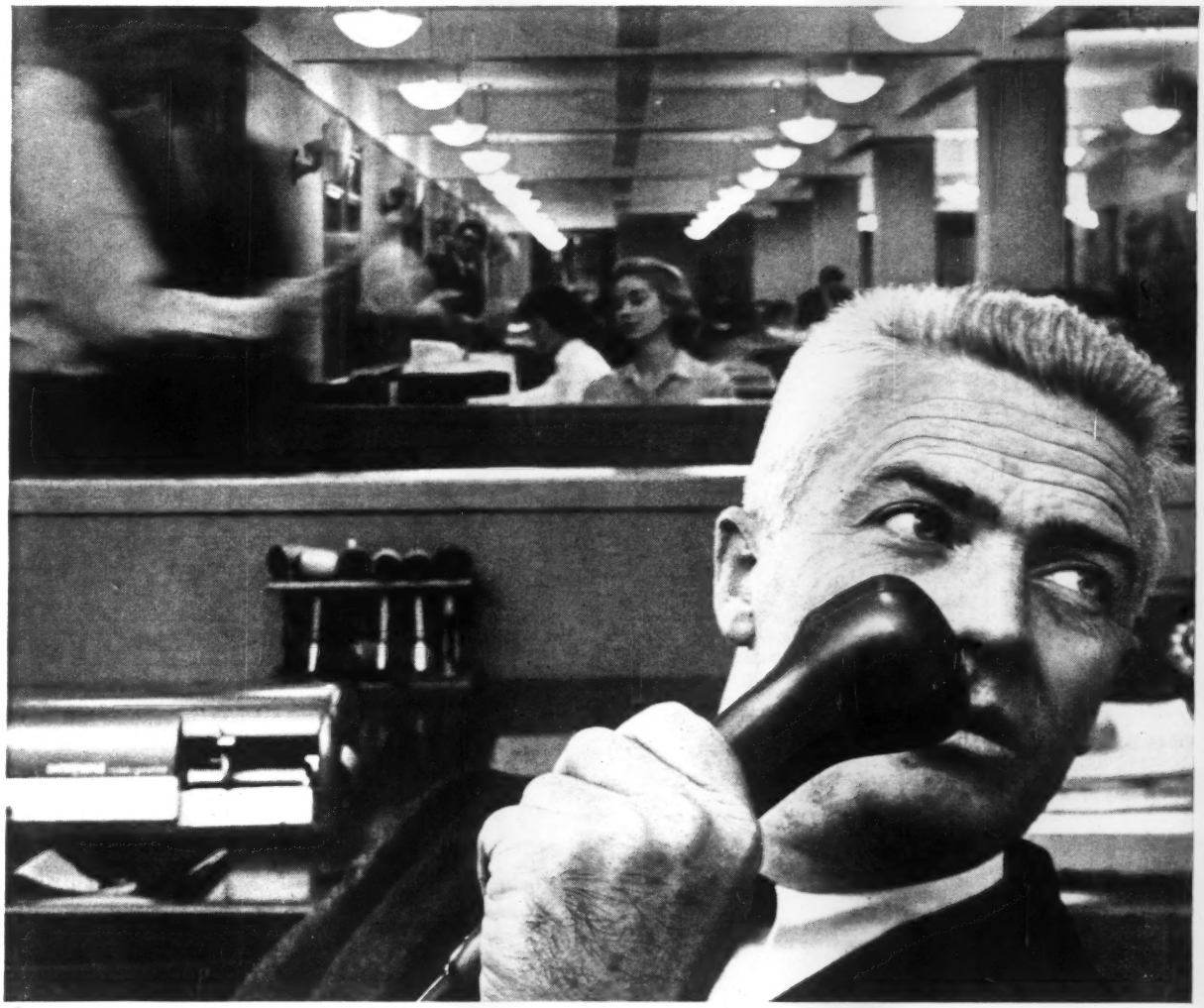
Using Interviews

While interviews are a time-honored and effective method of executive selection, they may also be as meaningless as picking a name from a hat. After a comprehensive survey, T. F. Bradshaw reported: "In most of the companies visited, the selection process seemed to consist of measuring applicants against vague, unformulated standards . . . In most instances, the interview was unplanned and was conducted by a person with little knowledge or practice in interview technique . . . In general, the interviewer from the [operating] department was unfamiliar with interview techniques; and the personnel staff was not familiar with the needs of the [operating] department."

Specialists in the field of interviewing generally agree on the following principles:

1. Interviews should be conducted only by those who have demonstrated their ability to size up other people.

2. Interviewers need extensive information about the job to be filled and the conditions under which it will be performed, the qualifications necessary to do it, and the most suitable temperament for it. Interviewers need training in getting and interpreting information. They must



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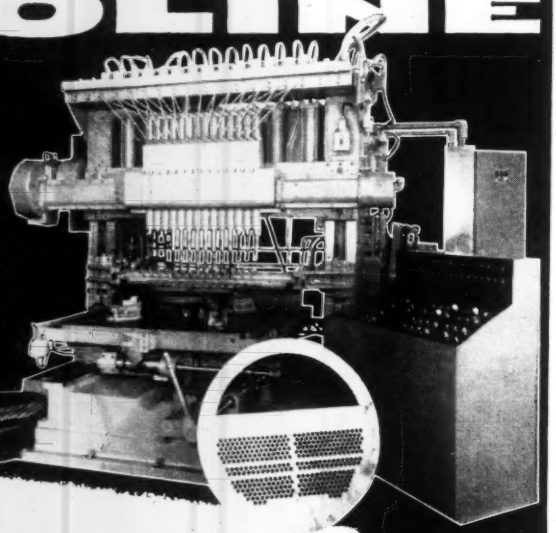
MOLINE



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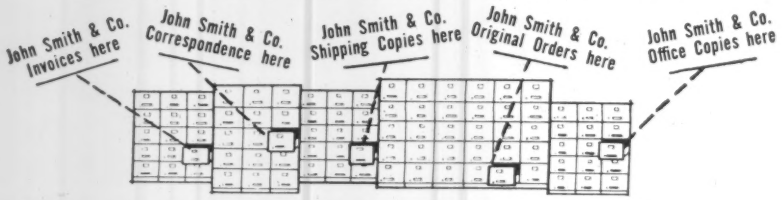
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know how to integrate results of appraisals, tests, and work history data with interview information.

3. The main line of questioning in the interview should be on the applicant's work history, health, and social and family life.

4. Several different interviewers are advisable. Better results may be obtained when interviews are consecutive rather than of the panel type.

The Group Oral

One of the newest interview techniques for management selection is the group oral performance test, now used by banks, department stores, airlines, manufacturers, and oil companies. In the group oral, between five and eight applicants discuss a problem presented to them, while the non-participating interviewers observe and evaluate. Though the problem is usually one related to the job being filled, it is kept sufficiently general so that each applicant may be expected to have enough knowledge to tackle it. The demonstration gives each man a chance to show how he thinks and what he is, rather than show off how much he knows.

The major value of the group oral is that it provides direct information on each man's capacity for leadership. The spontaneous reactions of members of the group to each other also yield useful information. The group oral will usually reveal the applicant who is ignored by others, the applicant who is all wind, the blunt and tactless man, the driver, and the leader. While it may tend to underrate the strong, silent man, the individual interview, which should supplement the group oral, will help provide a proper balance. Tentative research on the group oral by Bernard Bass indicates that the characteristics displayed tend to be stable, regardless of changes in the composition of the group. Random selection of each group is desirable when more than one group has to be formed.

In interpreting the results of an interview the following seem to be the ten key questions to consider:

1. How much drive does the applicant have? How ambitious is he?

2. How cooperative would he be? How persuasive?

3. Is he dependable? Is he a mature person?

4. Can he withstand pressures?

5. Is he interested in organizing and administering?

6. How good is his "common sense"?

7. Can he take the physical and emotional strain of the job?

MANAGEMENT APPRAISAL INVENTORY

I. Personal Characteristics

How well does each statement describe him?

A. **Energy:** Full of pep; does a full day's work; never tired.

☐ Fully ☐ Partly ☐ Not at all

B. **Relations with People:** Everybody likes him; is never tactless; a real leader; people like to work with him.

☐ Fully ☐ Partly ☐ Not at all

C. **Self-Confidence:** Does not show off; stands his ground when in the right; can't be bull-dozed; is not afraid to make decisions.

☐ Fully ☐ Partly ☐ Not at all

D. **Ambition:** Wants to get ahead; prepares himself for advancement; willing to accept responsibility.

☐ Fully ☐ Partly ☐ Not at all

E. **Dependability:** Can always be trusted; carries out responsibilities without supervision; gets all the facts before making a decision.

☐ Fully ☐ Partly ☐ Not at all

F. **Interest in Administration:** Interested in administrative problems; does not ignore procedures or administrative responsibilities; studies and learns about administration.

☐ Fully ☐ Partly ☐ Not at all

Summary of Personal Characteristics

1. Which **two** of the six factors above are his greatest strengths? What has he done to display these strengths? .....

.....

2. On which one of these factors does he need most development? What has he done that displays this weakness? .....

.....

II. Technical and Administrative Qualities

How well does each statement describe him?

A. **Technical Knowledge:** Is an expert in his special field; keeps abreast of new developments.

☐ Fully ☐ Partly ☐ Not at all

B. **Judgment:**

a. Has excellent judgment in problems concerning people.

☐ Fully ☐ Partly ☐ Not at all

b. Has excellent judgment on technical problems.

☐ Fully ☐ Partly ☐ Not at all

c. Has excellent judgment on management and organization problems.

☐ Fully ☐ Partly ☐ Not at all

C. **Planning Ability:** Is a sound planner; always plans ahead; takes all pertinent facts into account in his planning.

☐ Fully ☐ Partly ☐ Not at all

D. **Mental Ability and Creativity:** Learns fast; a keen analyst; offers new solutions.

☐ Fully ☐ Partly ☐ Not at all

E. **Organizing Ability:** Organizes work and people well; makes full utilization of people and equipment; meets deadlines.

☐ Fully ☐ Partly ☐ Not at all

Summary of Technical and Administrative Qualifications

1. Which **two** of the above five factors represent his greatest strengths? What has he done to display these strengths?

.....

2. On which one of these five factors does he need most development? What has he done that displays this weakness? .....

.....

Over-all Evaluation

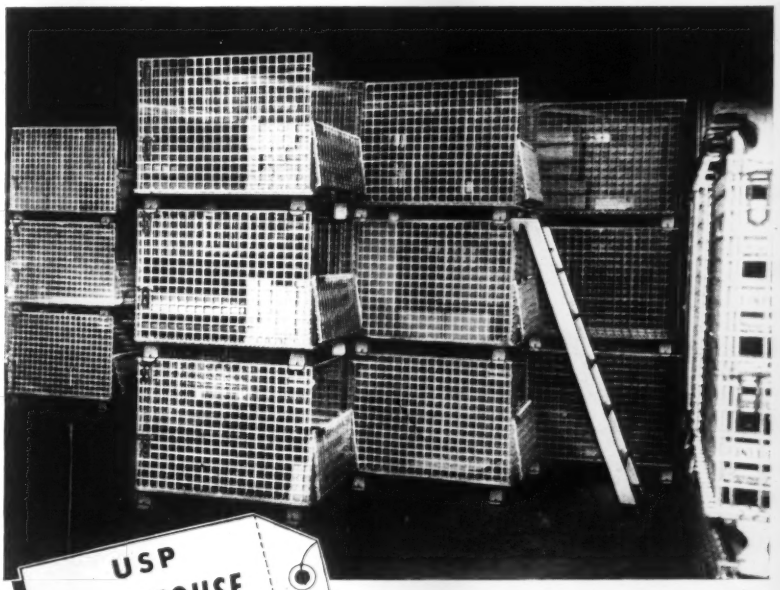
☐ 1. An outstanding prospect for promotion now.

☐ 2. A very good prospect for promotion now.

☐ 3. A very good prospect for promotion now to ..... type of position only.

☐ 4. Needs further development.

☐ 5. Not a likely prospect.



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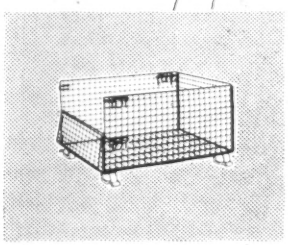

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Esther Williams, President

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8. Is he a "team" player?
9. Will he build the reputation of his organization?
10. Will his subordinates like and respect him?

These key factors demonstrate that the interview is not for amateurs. It is a professional job requiring continuous study, objectivity, and self-control, as well as the "art" of sizing up other people.

Are References Reliable?

It is now generally accepted that, where the job justifies the expense —and management certainly is such a job—telephone calls and personal visits rather than written communications should be used to get reference data. A study by the writer of salesmen selection methods in 179 companies indicated that 72 were using personal visits for this purpose.

One of the basic problems in reference inquiries is the difficulty of knowing the standards used by the person who provides the information. Another is obtaining complete information—favorable information is more readily given than unfavorable information, which tends to be forgotten or buried. The third basic problem is relating the reference data to the needs of the new job—a difference in organization and supervision may make all the difference.

For these reasons, getting and interpreting reference information is an assignment for skilled and sophisticated specialists. A reference check can produce the most important information about the applicant, because the data are based on his actual behavior over an extensive period—unlike interviews or tests, which are brief and artificial. But a wary attitude is needed to avoid placing too much emphasis on the information merely because it seems to be complete and accurate.

Making Appraisals

Appraisals (see sample form, page 99) have all the advantages of reference inquiries; and the virtue of coming from within the company from those presumably anxious to help another company official make a decision. Yet General Electric has abandoned written appraisals for supervisory jobs because of differences in standards among raters and the lack of complete information. Wisconsin Electric says they are "as primitive as substituting a chunk of

buffalo tallow for a thermometer," and one personnel researcher labels them a "flimsy" basis for selection. These warnings should not be interpreted as an argument for abandoning appraisals. Rather, they support the use of additional selection methods and the need for skill in the use of appraisals.

First of all, skill is required to determine the scope of the appraisal. Experience and judgment are required to define realistically the qualifications needed for the new job, and at the same time omit the qualifications that the applicant could not demonstrate in his present job.

The second important step in an appraisal program is to motivate and train those who provide the information to do a complete and perceptive job. It is not enough to find out that "Joe gets along well with people." Will the people he deals with now be the same kind of people he will have to get along with on his new job? Why does he get along with people? Because he leaves them alone? Because he is warm and friendly? Because they respect his knowledge or intelligence or helpfulness?

The final step is analyzing the appraisal itself. To do this, one must know who provided the information, which defects may be fatal in the new job, which may be corrected. Also required is the ability to compare the intangible characteristics of one person with those of his competitors for the job.

Using Written Tests

Written tests, like appraisals and interviews, are of no value if they are used slavishly by inexperienced

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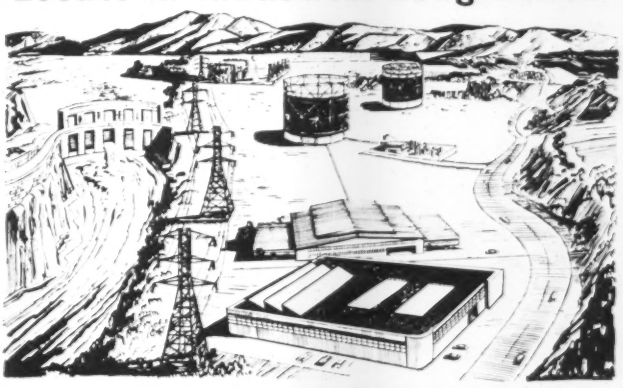

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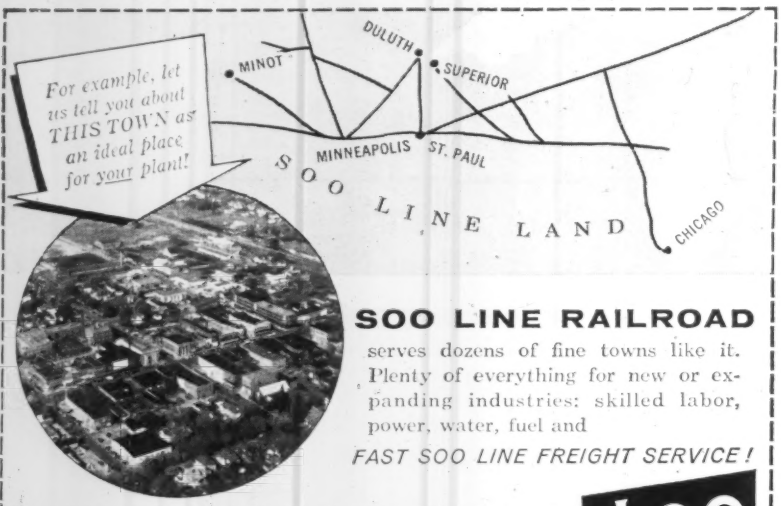

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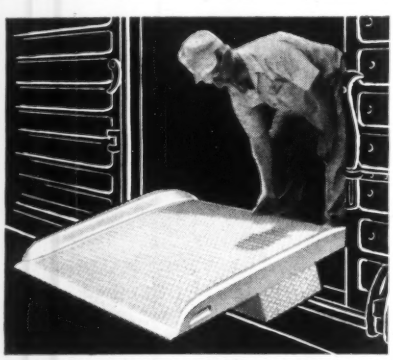

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persons. In the hands of men thoroughly familiar with all the personnel testing tools and research, they generally offer as much valid information as other selection methods. An effective selection program employs all basic methods and integrates all the information obtained.

Learning ability tests, especially those measuring verbal judgment, quantitative reasoning, and abstract reasoning, are the base of the structure: They indicate the man's ability to learn and his ability to analyze. They offer an important insight into his ability to make good decisions. But they are only part, not the whole, of the testing process.

Interest inventories are among the most valuable of written tests. These include tests developed by Professor Edward Strong and by Gordon Allport and Philip Vernon for top positions, and the Kuder *Preference Record* for people at lower levels. Professor Strong has suggested as a result of his research work that the best pattern for an executive is a high level of interest in work dealing with people and administration, and less intense interest in the applicant's profession or occupation if, as in the case of accountants, the job is not primarily one of dealing with people. The scales on the Allport-Vernon *Study of Values* that seem most predictive of success are those relating to ambition and interest in broad-gage affairs. The *Preference Record* has a number of scales, including one on persuasiveness, which may reflect the potential for executive success.

The great value of interest inventories is that the patterns sought can be adjusted to the precise requirements of the job. It is well known that different interest patterns may lead to equal job success, and that the desirable interest patterns for executive jobs vary widely. Certain executive jobs may require breadth and a high level of ambition; others require much greater attention to detail, and only limited ambition may be desirable because of limited opportunities.

The Personality Inventory

Many kinds of personality inventories are available, including the *Bernreuter Personality Inventory*, the *Thurstone Temperament Schedule*, the *Minnesota Multiphasic Personality Inventory*, and *The Personal Audit*. This form of test traditionally

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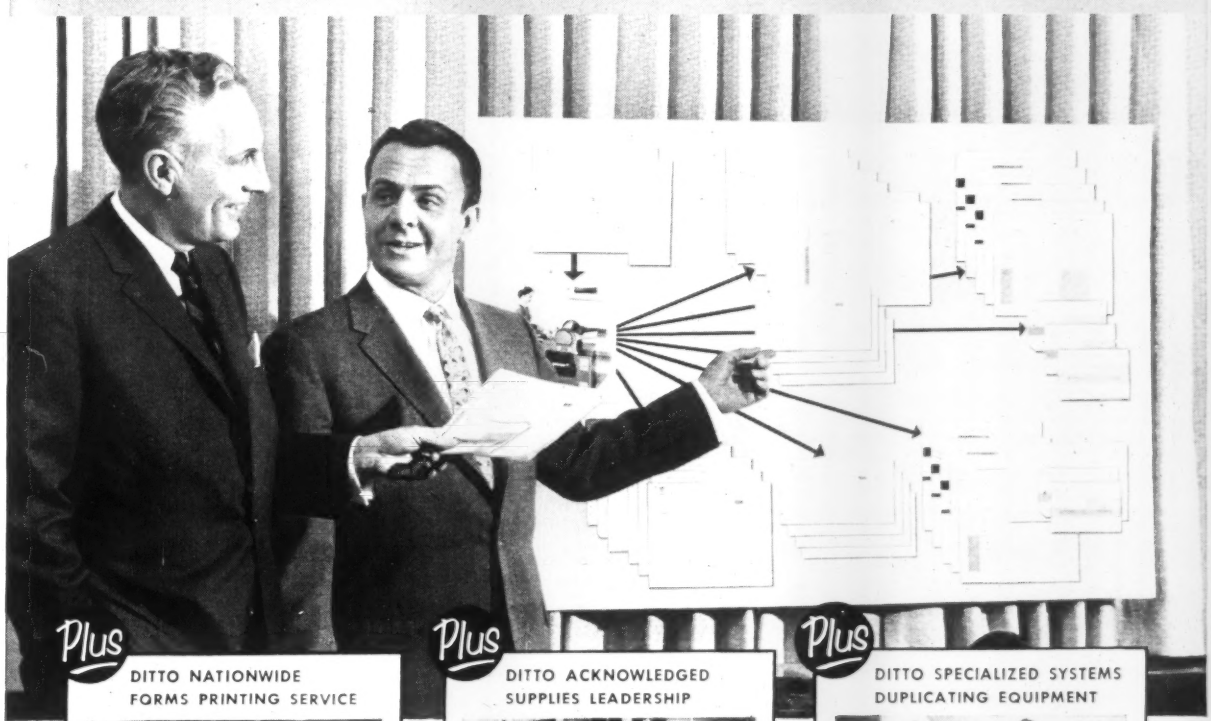

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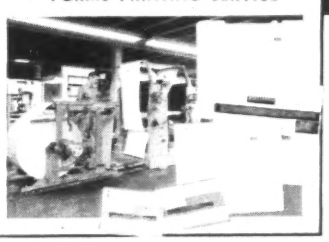

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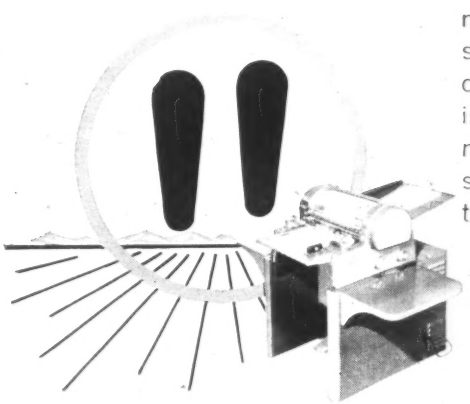

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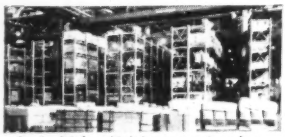

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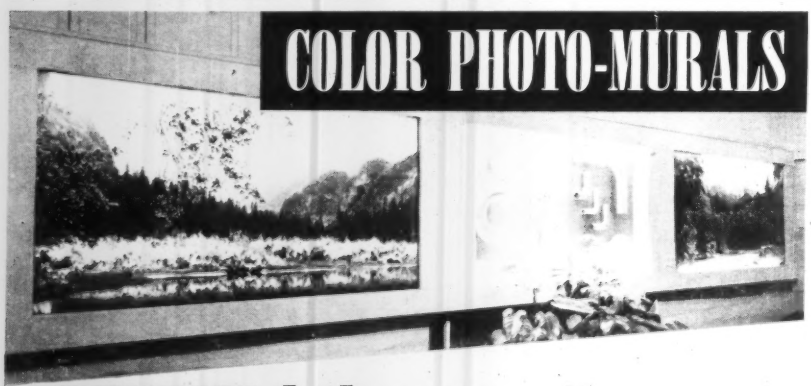

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lists a number of types of behavior that characterize work and social habits, and asks the applicant to indicate those that correspond to his. In a more recent technique, the types of behavior are presented in sets of two or more, and the applicant chooses the response he thinks he would make in the hypothetical situation. Scores on personality inventories are usually expressed in terms of such characteristics as dominance, reflectiveness, activity, gregariousness, and similar basic temperamental tendencies.

There are gaps and dangers in these tests. They have not been validated in relation to job performance; many of the scales are ambiguous; and there is no way to check the honesty of the applicant's answers. But they do offer useful tools to the trained psychologist, and they can be of value in an executive selection program geared to the latest research methods.

Projective tests, which are arousing increased interest among business men, should be used only by those trained in clinical psychological methods. They include the well-known Rorschach inkblots and the pictures of the Thematic Apperception Test. Companies are using their own psychologists and consultants to administer and interpret these tests for potential managers. The basic task of the applicant in these cases is to describe what he sees. Because the stimuli offered are ambiguous, presumably he reveals himself in what he sees, including his psychological needs, his hostilities, and his approach to problems. These tests offer useful information, provided that the psychologist using them has had extensive experience with "normal persons" and knows the requirements of management jobs thoroughly. One authority points out that the results may be influenced by the actions and biases of the examiner.

Biographical information blanks should not be overlooked. They offer a unique approach to the testing of personality. They ask questions about the applicant's schooling, work experiences, health, and social and family activities. This approach was originally used by life insurance companies for selecting agents, and has been validated for managerial selection by Lockheed Aircraft, Procter and Gamble, the military services, and the insurance companies. Ques-

tions of the following types have been used in these blanks:

1. *For how many different companies have you worked during the past ten years?*
   a–one
   b–two
   c–three
   d–four or more
2. *What is your present salary compared with your salary ten years ago?*
   a–twice as great
   b–three times as great
   c–four times as great
   d–five or more times as great
3. *Which of the following characteristics of a job is most important to you?*
   a–salary received for work
   b–steadiness and permanence of work
   c–opportunity for promotion
   d–courteous treatment from superiors
   e–opportunity to make use of all one's knowledge and experience

A basic difficulty with the biographical information blank is that it must be prepared and validated for specific positions; there are no ready-made blanks with scoring keys and norms. Records show which combination of answers best predicts success. But it is highly likely that an investment in this type of written test would be justified in larger companies.

Judging Experience and Training

Analysis of the applicant's work history and training can furnish important guides. For example, too long exposure to routine work may lead to a decrease in initiative; too long exposure to professional work or to one main branch of work (sales or fi-

"Ulcers, nonsense! My motto is: Give 'em, don't get 'em!"

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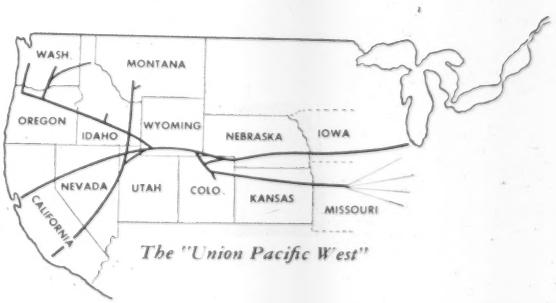
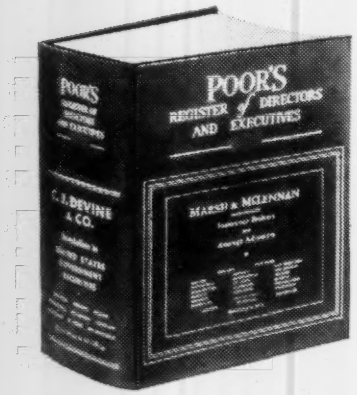


The "Union Pacific West"

FLASH! *Just off the Press...*

POOR'S 1957 Register of Directors and Executives



Names, Addresses, Background of Business Executives, Officers and Directors...

- Gives 23,000 corporate listings of nationally known companies. Shows titles and duties of all leading officers and directors, technical personnel, traffic managers, purchasing agents. Also number of employes and nature of products manufactured.
- Includes complete case histories of 80,000 top-flight executives throughout the country with their home addresses, educational background, year and place of birth, interlocking connections.
- Also includes a breakdown of 208 classifications of industry . . . a products index of over 2,500 commodity and service items.

• All information is kept up-to-date through cumulative supplements. The first and only National Directory of Executive Personnel. Begun in 1928 . . . revised yearly ever since. This 1957 edition includes over 245,000 type changes.

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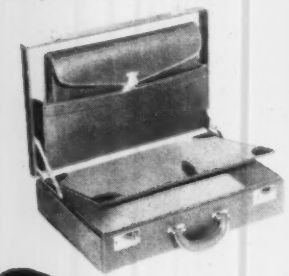

Over 2,000,000 TUFIDE *Cases in use — many by outstanding firms like these:*

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nance, engineering, or production) may lead to blind spots in looking at a problem from an over-all point of view. Men with such experience become, in essence, prisoners of their past environment. Too long exposure to other types of environment may also be crippling. Those with long experience in a plant may be poorly equipped for headquarters work; those long engaged in staff work may have developed poor habits for line operations.

Some types of executive experience develop habits inappropriate for other executive posts. Delegation or the failure to delegate, lone-wolf or group decisions, are work habits that may be difficult to change, particularly if they are reinforced by the personality of the applicant. In any case, retraining may be required.

There is need for careful analysis of performance at lower levels of management, before the information is issued for selection for higher levels. Too complete reliance on lower-level performance may lead to the choice of a good man at one level who will be a misfit at a higher one. One authority has noted, "Anyone needs but to gaze about his own organization to observe those who at one level of management were entirely satisfactory but who have, since their last promotion, performed very much like a fish out of water."

Importance of a Selection Program

The complexity of the executive's qualifications makes identifying the potential executive one of the most baffling of management problems. Progress has been hampered by the men who, at one moment, attack the lack of knowledge on the subject and, at the next, refuse to cooperate in new research. Progress is also hampered by those who seek quick, cheap answers; the range of qualifications needed justifies the use of many devices.

Despite this, many leaders in American industry are quietly and impressively moving forward. Lever Brothers has made an intelligent and systematic attack on the problem under the guidance of a capable psychologist. A substantial number of large companies are cooperating in studies by two large consulting organizations. Sears, Roebuck reports that more than half of the time of its territorial and national personnel staff is devoted to the selection,

placement, and development of management. Wisconsin Electric has made a thorough study of management selection methods. Atlantic Refining uses a carefully chosen set of appraisal methods—learning ability, interest and personality tests, service interview techniques, and group appraisal.

In executive selection, as in any other area, a little knowledge is a dangerous thing. Only an ill-informed or partially informed person will go overboard for any one selection method. The job requirements are too complex to be submitted to a single scoring tool. But to ignore the available testing methods completely is as ill-advised as to latch on to any one as a panacea. The reasonable executive will experiment with various selection methods and probably settle on several that can be integrated to uncover the men most likely to make good in the front office.

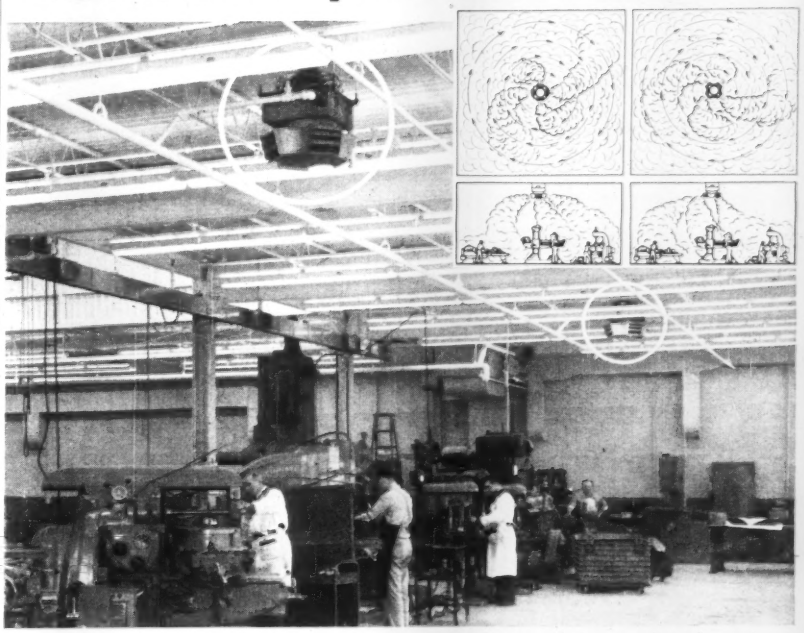
The wise executive also knows that the best measurement methods are not the whole answer to the problem. He knows that men, however capable and carefully chosen, need training; that they should be discovered and used before they lose their executive potential; that they need constantly expanding opportunities to flex their talent and to acquire new skills; that it is important to attract new men of potential executive talent to the company and to hang on to them. The good executive selection program is a vital first step in accelerating a company's growth, insuring its survival, and increasing its profitability.

FULLY AUTOMATIC

Some day, thanks to automation,
Life will be one long vacation.
Not three weeks or four weeks merely
But a year's vacation yearly.
Once we've pulled the starting lever,
We can sit at ease forever,
Or, if we prefer, go driving
In a car that, till arriving,
Takes no braking, no, nor steering.
(Electronic eyes are peering),
And, to spare us effort wholly,
While we're driving, swift or slowly,
There will be, of course, machinery
Which will gaze upon the scenery,
And, on roads outside the city,
Point and say, "My, ain't that pretty!"
Then, avoiding argument,
Almost human, grunt assent.

RICHARD ARMOUR

"REVOLVING HEAT" means COMFORT *plus* EFFICIENCY



Above photograph shows section of a new plant of Kirkhof Electric Mfg. Co., Grand Rapids, Mich.

NO DISTURBING HOT BLAST ON MEN, MACHINES OR MATERIALS

Because the heat distributor of "Wing Revolving" Heaters keeps turning slowly, the direction of distribution of the warm air is progressively changing through 360 degrees. As a result, warm air is swept gently outward over wide areas and around obstructions. Greatest possible coverage is assured. Deflectors on distributors are so adjusted that each directs its airstream on a different diameter circle. This can be seen in the diagrams at above right.

Workers In Fixed Positions Are Never Subjected To Annoying and Enervating Steady Hot Blasts. In the manufacture of products to close tolerances where uniform temperatures are essential, neither machines nor materials are ever adversely affected.

"Wing Revolving" Heaters Have Year Around Usefulness. In summer, with heaters operating with steam turned off, the revolving distributors produce a pleasant, cooling effect that keeps workers comfortable and more productive.

Details of "Wing Revolving" Heaters are contained in Bulletin HR-6A.

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Factories: Linden, N.J. and Montreal, Can.
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REVOLVING HEATERS

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315 Vreeland Mills Rd., Linden, N.J.
Please send me Bulletin HR-6A—Revolving Heaters

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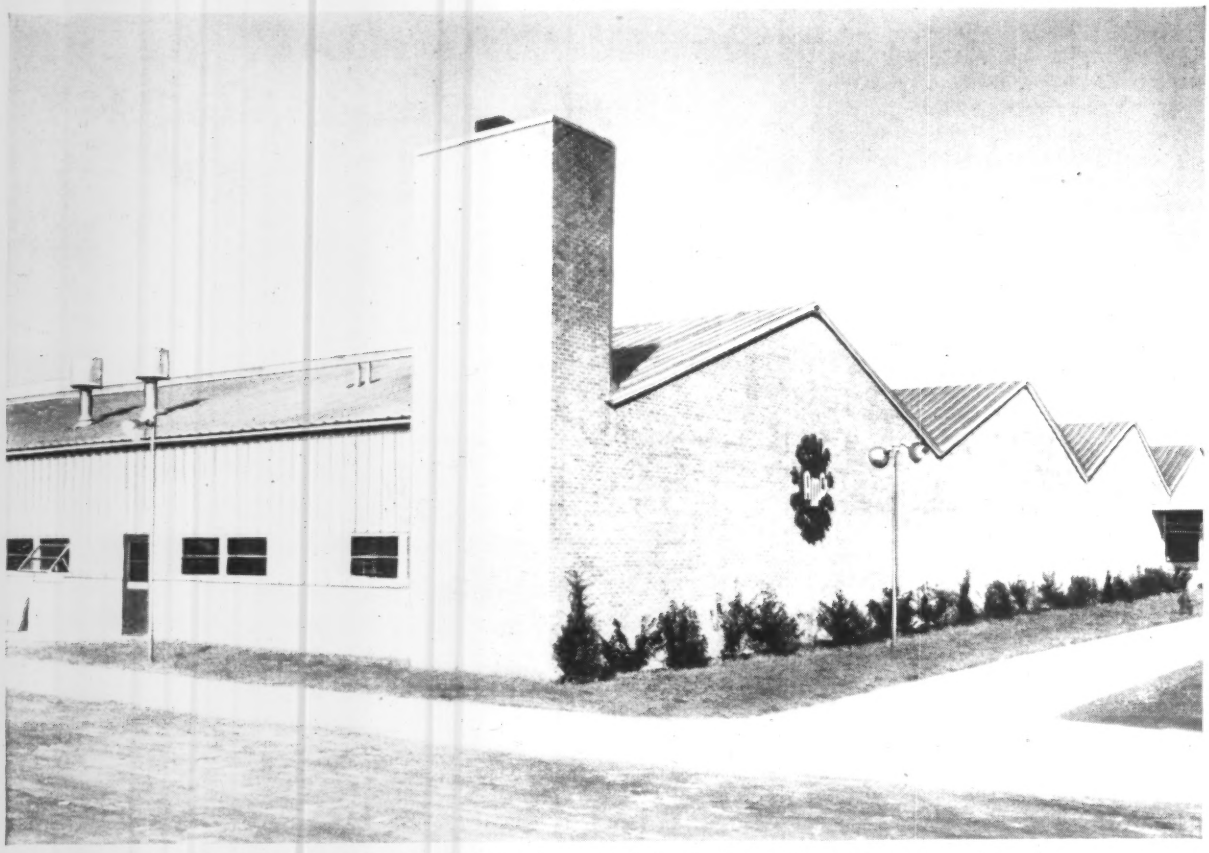

This multiple unit Butler building in Little Rock, Arkansas was designed and erected for American Machine & Foundry.

This is a low-cost building?

This distinctive, modern industrial plant was built with the Butler Building System — the lowest cost method of building well. Butler mass-produced the essentials of the building — a rigid steel frame and a lifetime metal roof so perfectly designed and manufactured that assembly was little more than a bolting job. (Costly, custom-fabrication of structurals was eliminated — engineering time and costs reduced.)

These Butler components were erected quickly and formed a low-cost, functional base for the balance of the building. Since the rigid frame supported the roof, bulky, costly exterior walls were not necessary. Slim, attractive curtain walls could be used. And they went up quickly and economically.

The rigid frames provided a high ratio of floor area to columns. This produced more usable space for the best placement of men, machines and material. These spacious areas could, where necessary, be divided into smaller areas with low-cost partitions.

From start to finish, this building demonstrates that high quality and low cost can be compatible. If you are planning a warehouse, factory or commercial building, be sure to investigate the Butler Building System — the lowest cost method of building well.

Phone your Butler Builder listed under "Buildings" in the yellow pages of your telephone directory. Ask him to show you the sound-slide film on the Butler Building System. Or write direct.

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Fresh angles on storage, automation, rubber-like materials

Automation—fact and fancy

The fully automatic factory, says James R. Bright of Harvard, is pretty much a figment of the imagination. Mechanized operations there are, and automatic controls. But manless, work-by-themselves plants just don't exist. Even in the most highly automatized set-ups, men are still needed, if only for monitoring and maintenance.

But it is a mistake to assume that the only advantage to automation is elimination of labor. As Bright points out, those who have set up automation programs find equal or even greater benefits in increased capacity, shorter lead time, higher product quality, reduction of scrap, improved safety, easier production control, and easier housekeeping.

In some cases, automation may even mean lower capital investment and reduced maintenance cost. Though automated equipment is usually big and complex, it may cost less than the sum of the machines it replaces, take up less space, and be easier to maintain.

It is important to recognize, too, as Glenn R. Fitzgerald of General Motors told a recent ASME meeting, that there are many degrees of automation. "In most cases, there exists between [manual methods and full automation] a tremendous range of improvement potential that almost any manufacturer can explore to his advantage." Fitzgerald cites examples like those below. The operations are purposely left semi-automatic because full automation would cost more than it could possibly save. "As the ultimate in mechanization is approached," Fitzgerald says, "equipment costs increase at a much more rapid rate than the decrease in labor costs."

Mechanization, then, is a worthy goal. But it has its limits.

Stronger magnets from iron particles

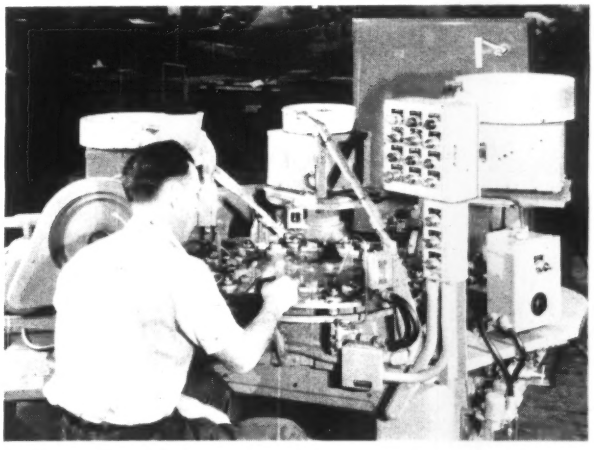
Permanent magnets of pure iron powder—for use in photographic exposure meters, aircraft instruments, and perhaps even in radio and television speakers—are now being made at General Electric.

Like manganese-bismuth and barium ferrite magnets, these new magnets use no critical materials. But, say G-E scientists, they are potentially far stronger than the barium ferrites; and they do not lose strength at low temperatures.

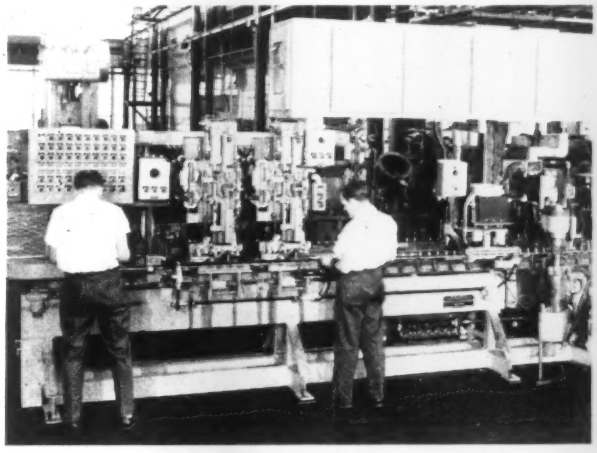
Furthermore, G-E scientists expect the powdered iron material to open new horizons for use of magnetic devices in and around nuclear reactors —where alnico magnets cannot now be used. (Alnico magnets become highly radioactive because of their cobalt content.)

The idea of making permanent magnets from pure iron powder is not new. But earlier attempts failed to produce a material that was "permanent" enough. The magnets were too readily demagnetized. Now G-E scientists believe they have licked this problem by producing iron particles in elongated rather than the conventional round form.

The new elongated-particle iron

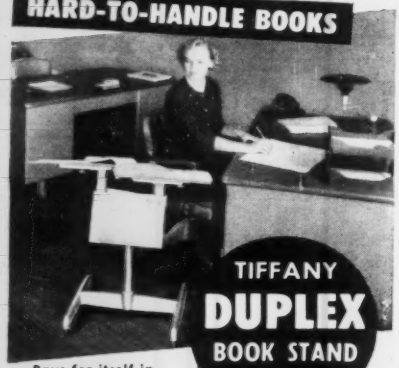


Springs are hand-fed though all other operations on this vacuum valve assembly machine are automatic. The reason? G. M.'s Process Development Section, which devised the unit, says it's less expensive this way than to try to automate completely.



Spark plug assembly, too, is automatic except for loading of insulator assembly. In this case, fragility of the unit dictated manual handling. G.M. engineers find many jobs can be partially mechanized, but few justify one hundred per cent automation.

INSTANT PORTABILITY
FOR THOSE HUGE, HEAVY
HARD-TO-HANDLE BOOKS



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or perhaps we should say "file-keeper"...

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A Division of Natser Corp.
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In Canada: Acco Canadian Co., Ltd., Toronto

powder is still in the pilot plant stage, and no information is available on commercial cost. However, G-E researchers see no serious obstacle to large-scale production.

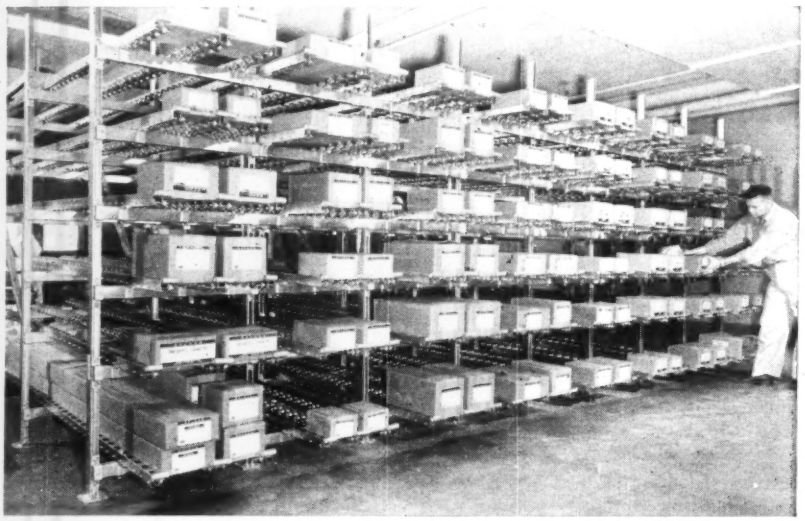
Guar grows into new jobs

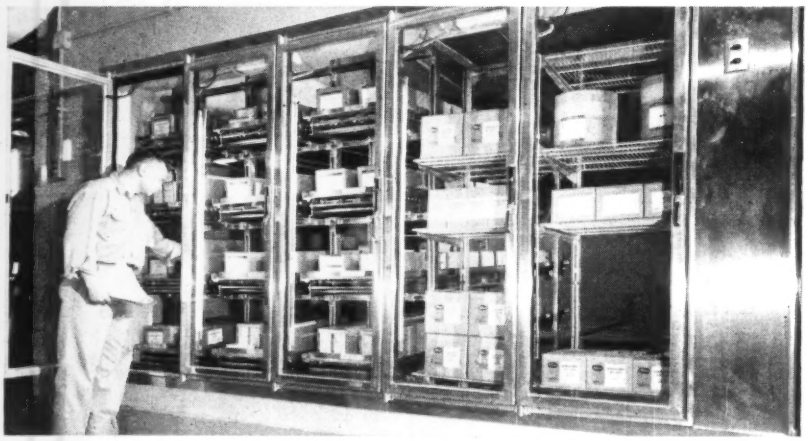
Guar gum, old in point of history, is quite new as an industrial chemical. But its two commercial suppliers, General Mills and Stein, Hall & Co., report its uses already range from ore processing and papermaking to textile converting, ice cream stabilization, formulation of pharmaceutical products and waterproofing of dynamite.

Among the valuable properties of guar derivatives are: high viscosity (even at low concentrations), stability over a wide pH range (the molecule is non-ionic), and excellent gelling and film-forming ability—qualities that should find application in coatings, adhesives, drilling compounds, and the like.

Guar itself is a legume-type plant, originally grown in India, from the seeds of which the gum is extracted. It is similar in many respects to lo-

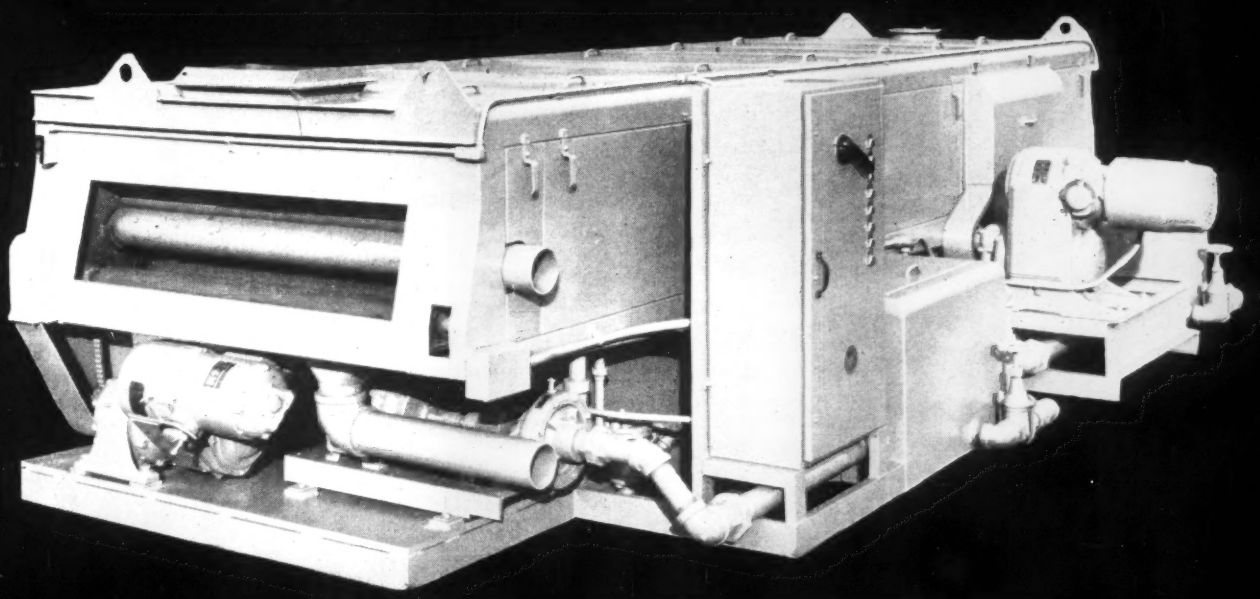
Keeping them safe in storage





Storage problems are compounded when sensitive drugs and chemicals must be handled. But, as these photographs from Chas. Pfizer & Company, Inc., show, such materials can be stored safely and efficiently if the right equipment is at hand. In its new Midwestern Distribution Center, Pfizer makes extensive use of self-feeding racks to speed order-processing—not only in the regular storage areas (upper photograph), but also in the cold-storage set-up that protects heat-sensitive products (lower photograph). (For other ideas on storage, see November 1956, page 56.)

Compact Design Eliminates Space Wasting Bulk



POWER SPRAY SHEET WASHERS by PETERS-DALTON SAVE VALUABLE PLANT FLOOR SPACE

This compact Sheet Washer speedily cleans sheet steel after polishing. A comparative "shorty" in length, it handles sheets at high speeds . . . operating efficiently at a 75 ft. per minute gait. P-D equips this Power Spray Sheet Washer with a powered roller conveyor, a powered brush, and a high pressure blow-off. Because of careful designing, it functions successfully in an area much smaller than ordinarily required for this type operation.

For more than a quarter century PETERS-DALTON experts have proved their designing and engineering skill. Washers of all sizes, types and required uses, can be designed and built to meet your needs . . . from a single unit to a complete installation. You can depend on P-D to give the services and production you have the right to expect. Just write, wire or phone. We'll be glad to tell you more.

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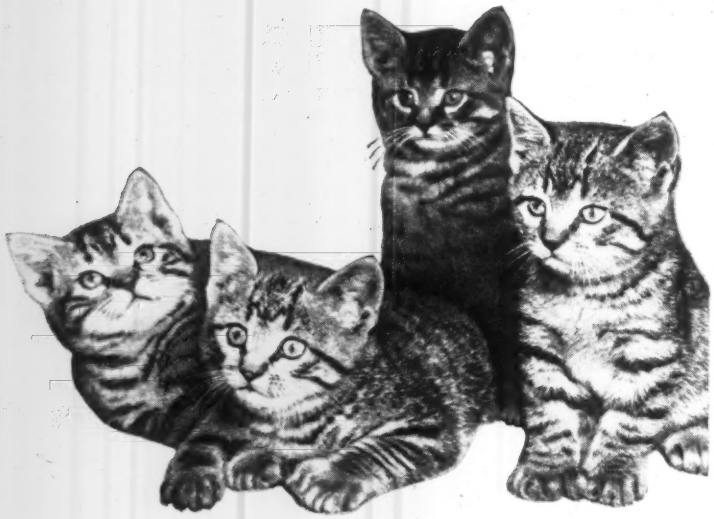

Even their mother couldn't tell 'em apart. It's equally hard to tell the *last* copy from the first when *all-new* Colitho Direct Image Paper Plates and duplicating supplies do the job!

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that look alike

The secret of this greater *uniformity* is that from plate to plate, box to box and shipment to shipment, Colitho Direct Image Paper Plates are ph Control-coated to closer tolerances *than ever before.* And Colitho Etch and Fountain Solution are specially formulated to bring out the exact same sparkling appearance from every plate.

Systems men and duplicator operators the country over are discovering this great new uniformity Colitho gives all their offset duplicating. For the name of your nearest Colitho supplier, write: Columbia Ribbon & Carbon Mfg. Co., Inc. Glen Cove, New York.

COLITHO OFFSET DUPLICATING PLATES AND SUPPLIES

cust bean gum, and is also related to gum Arabic, gum Karaya, and the alginates. It's worth considering where any of these are now used.

New way to weld steel

Faster, lower-cost welds on a production-line basis are promised by Linde Air Products' semi-automatic *Unionarc* process for mild steel. Using bare wire in continuous coils and a powdered magnetic flux fluidized and carried by carbon dioxide gas, the process is said to permit unusually high welding speeds.

The flux is the key to the process. Because it is magnetic, it is attracted by the magnetic field created around the welding wire, and thus coats the wire as it emerges from the nozzle.

There are other advantages to the flux, too, Linde reports: It stabilizes the arc, helps cool the metal, and comes off easily when the job is done.

Linde will supply the equipment, including a special electronically controlled welding machine developed for the process.

—A. R. G.

more news on page 114

Clean squeeze

Among the many products now being packed in plastic squeeze tubes is this waterless cleanser specially formulated for removing ink stains and carbon smudges. Corrosion resistance, convenience in use, and displayability explain the growing popularity of this type of packaging. Bradley Container makes the tube; Underwood Corporation markets the cleanser.

AMERICAN MANAGEMENT ASSOCIATION

International Amphitheatre, Chicago. April 8-11, 1957

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Transportation won't be your only problem in deciding on a new plant location. You will want complete facts on labor, markets, water, available sites or buildings, power, fuel and raw materials. And you will want information on these as they apply to the successful operation of a specific plant.

A tailor-made report

Any or all of the factors important to your analysis will be covered in a confidential report to you—tailored to your needs. It will be prepared by a professional and experienced staff to cover either New York State locations of your choice, or, if you wish, sites which we will select on the basis of your needs.

Our booklet, "Industrial Location Services," explains what we can do for you. To get your free copy, write me at the New York State Department of Commerce, Room 575, 112 State Street, Albany 7, New York.

Edward T. Dickinson

EDWARD T. DICKINSON
COMMISSIONER OF COMMERCE

Rubber makes news . . .

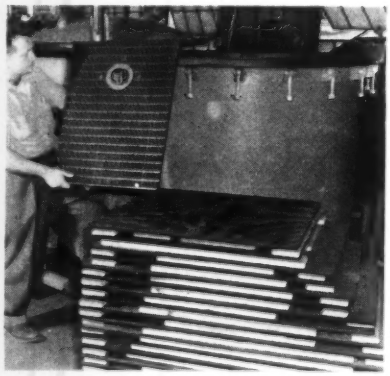
Natural rubber, the general-purpose synthetics, and the newer elastomers (see April, October, December 1956, and January 1957, page 67) offer a host of ideas for product improvement.

For instance, silicone rubber can now be "alloyed" to improve its properties (opposite page). Electrically conductive compounds are offered by the Silicones Division of Union Carbide for use as heating elements (see page 32), and Dow-Corning is working with Libbey-Owens-Ford on transparent silicone rubber safety glass interlayers.

Good news for rubber users, too, is the wealth of technical information now being made available, including several new glossaries. Among the most comprehensive is the ASTM's new 121-page *Glossary*

RUBBER SPRINGS: Cadillac's new Eldorado Brougham is the first passenger car to use air-operated, nylon-reinforced rubber diaphragms like these in place of metal leaf and coil springs, but auto experts predict that other cars will not be far behind. Many trucks and buses already use them. U. S. Rubber Company makes the springs shown here, and several other types are available.

GUN-APPLIED SEALANT: Self-curing Neoprene compound, supplied in cardboard cartridges by Gates Engineering Company, can be flowed on to lapped metal sheets, bolted or riveted flanges. Gates says the compound will resist water, oil, corrosive gases, and liquids; suggests its use on air and fume ducts, buses and trailers, metal buildings, marine and aviation equipment.



FILTER LEAVES: Molded of *Hycar* synthetic rubber, these corrugated filter supports resist heat, oils, and acids. They were designed for use in filtration equipment made by Industrial Pump and Manufacturing Company, are supplied in sizes from 6 by 12 inches to 30 by 48 inches. On large jobs, the leaves can be set up in parallel, so that they can be removed for cleaning.

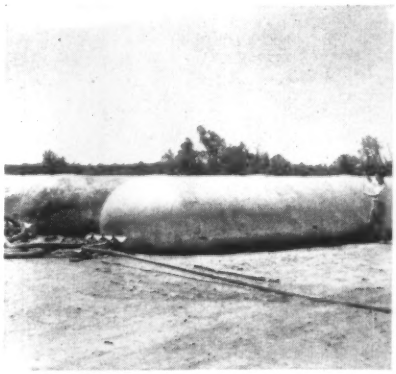
of Terms Relating to Rubber and Rubber-Like Materials.

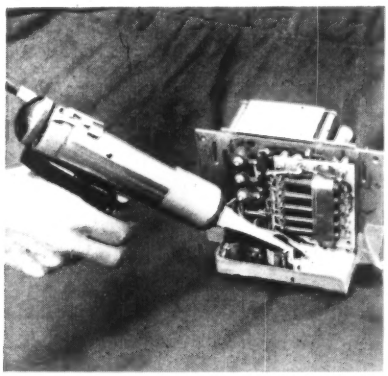
Shorter, but equally useful word lists are being included in such publications as Minnesota Rubber & Gasket Company's *Engineering Handbook #10A.*

Much information on rubber and rubber terminology can also be found in the proceedings of such technical groups as the American Chemical Society's Divisions of Chemical Literature and Rubber Chemistry. Those interested in rubber terminology will find S. G. Byam's sprightly discussion of *The Jargon of the Rubber Industry* especially worth reading. Copies may be obtained—while the supply lasts—from the Product Information Service, Elastomers Division, E. I. Du Pont, Wilmington 98, Del.

—A. R. G.

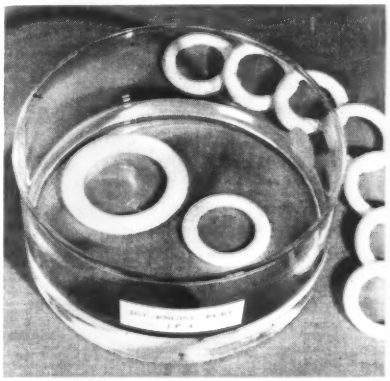
COLLAPSIBLE TANKS: Less than two and a half feet in diameter when rolled up empty, these Firestone rubber tanks expand to 45 feet, hold 15,000 gallons when filled. Made of rubberized nylon, they may be used to store oil, water, or other liquids. Smaller-sized collapsible rubber containers, offering similar advantages, can now be had from several sources.





PANEL PROTECTOR: Air-curing *Silastic* RTV silicone rubber helps to insulate and cushion airborne electronic equipment. The cured silicone rubber coating can be slit open for inspection and repair of various components, and is easily resealed with new material. It can also be patched if damaged. Here, Northrop Aircraft applies it to high-impedance circuit assembly.

NEW RUBBER: Combining features of both silicone and fluorocarbon rubbers, this new heat-resistant, oil-resistant fluorinated silicone promises to be the first in a long line of "hybrid" rubbers tailored to specific needs. Photograph shows how new compound, *Silastic* LS-53 (right) resists jet engine fuel, while conventional silicone rubber O-ring swells to twice original size.



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Cuts Costs on Wide Load Swings for Shulton

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Shulton, Inc., makes the well-known Old Spice toiletry line. They also make their own dies, boxes, packages and plastic closures. Steam plays a multiple role in processing. And their big, new Clifton, New Jersey, plant requires a high volume of hot water and heat. A dependable, efficient, low cost steam supply thus is a basic need. It was filled by a B&W Boiler. Virtually on the line upon arrival at the plant, this boiler took wide load swings in stride, saving extra money for Shulton.

No Matter How you use steam — for processing or only for heating; no matter how large or small your demand is, it will pay to look at your steam costs, just as Shulton did before installing their B&W unit. You'll be surprised how much money you're burning. And that's the money that really matters — not the initial cost of the boiler.

Most Boilers consume their initial cost in fuel every year. During the normal life expectancy of many boilers, the fuel bill can amount to several million dollars. Unless it is well-engineered, well-serviced, and well-maintained, the efficiency of a boiler can drop off 2 or 3 per cent or even more. This amounts to a substantial amount of money.

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The Most Definitive work on the subject, "Steam, Its Generation and Use," covers all of the applications of steam to industry. It was written by the same B&W engineers who can bring you long range sustained economy for your steam operations. We will be glad to tell you how you may obtain a copy for yourself or your engineers. Just drop us a note on your company letterhead. The Babcock & Wilcox Company, Boiler Division, Dept. DR-3, 161 E. 42nd St., New York 17, N. Y.

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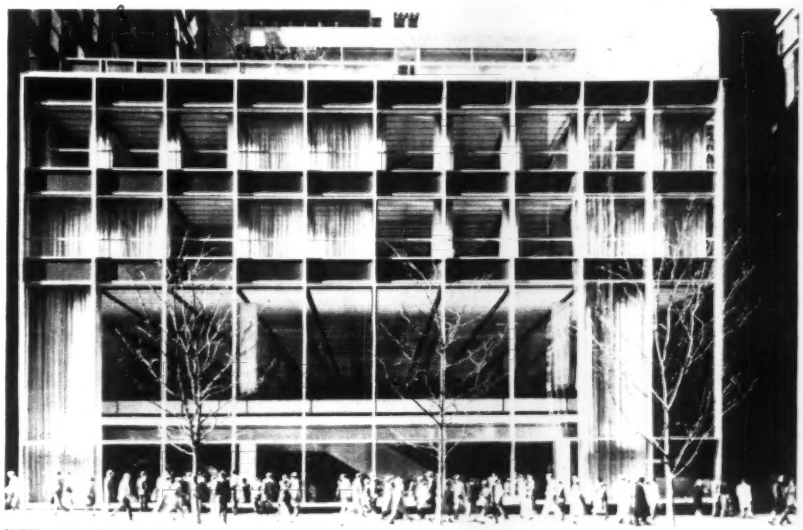
MODERN STEAM MAKES YOUR PRODUCT BETTER AT LOWER COST



Manufacturers Trust Company, New York; illustration from *Aluminum in Modern Architecture*

Executive BOOKSHELF

The "whys" of worker interest

EMPLOYEE INTEREST IN COMPANY SUCCESS *by John W. Riegel, Bureau of Industrial Relations, University of Michigan, Ann Arbor, 302 pages, $6.*

Dr. Riegel's research findings are based on interviews with 64 supervisors and 127 employees, representing eight companies. Some of the conclusions are pretty foregone—for instance, that worker interest in a company strongly affects efficiency. But much fresh and helpful material emerges when the author gets down to such specifics as: What kind of employees are most apt to have high interest in the company; what working conditions or management actions are most conducive to an attitude of interest.

Human relations at work

RESEARCH IN INDUSTRIAL HUMAN RELATIONS, A CRITICAL APPRAISAL. *Edited for Industrial Relations Research Association, Harper and Brothers, 49 East 33rd Street, New York 16, 213 pages, $3.50.*

Achievements and limitations of current work in business human relations are explored in 13 articles, representing labor, management, and academic interests. At its best, the book reflects sound and interesting thought on persistent problems in labor-management relations and worker productivity. At its worst, the material tends to become too academic, overlooking simple facts of economics and human nature in laborious social science jargon. But as one contributor wisely observes, "Not everything the social scientist does is of use to the practitioner, and maybe this is a good thing"—a perhaps fairer way of putting it.

The modern metal

ALUMINUM IN MODERN ARCHITECTURE *Volume 1, by John Peter, published by Reynolds Metals Co., Louisville, Ky., distributed by Reinhold Publishing Corporation, 430 Park Avenue, N.Y., 255 pages, $10.*

This document on the architectural uses of aluminum could hardly be improved on. The excellent quality of the photographs is supplemented by a format that displays them to their best advantage. The captions, instead of being mere labels, freshly summarize problems and techniques of twentieth century architecture.

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The volume concludes with comments from 26 contemporary architects and engineers on what's ahead in the field. Since we are spared any direct commercialism on the part of Reynolds Metals Co., the book is simply a brilliant sampling of what is fresh and imaginative in new architecture.

A companion volume, edited by Paul Weidlinger, is a highly detailed and extensive reference book for working engineers and designers.

Tough territory

OPERATIONS RESEARCH: A BASIC APPROACH, *American Management Association Special Report No. 13, 111 pages, $3.75 (AMA members, $2.50).*

Operations Research is not at present a field too easily discoursed upon. If the approach is highly specific, the results are technical and mathematical. If the approach is too general, the results are a vague jargon of definitions and abstractions.

The eight reports in this book, though erring on both sides, still comprise an objective introduction to the subject for the general executive. One report mentions that, of 39 companies identified as active in the OR movement, only three had a strong, well-defined operations research program under way. Here is one difficulty. Reports on OR in business are bound to improve when management men and consultants can talk less about what OR is and more about what it has done.

Short and to the point

SO YOU HAVE TO MAKE A SPEECH *by Daniel R. Maué, Updegraff Press, Ltd., Scarsdale, N. Y., 62 pages, $1.*

"An orator or author," said Ralph Waldo Emerson, "is never successful till he has learned to make his words smaller than his ideas."

Books on speech-making too frequently violate the rules they advocate most strongly: brevity and simplicity.

Mr. Maué does not, and he has managed to compress into 60 pages the sum and substance of many longer treatises on the same topic. His approach, suggestive rather than definitive, is unencumbered by pat rules and checklists. Each phase of speech-making, including choice of subject matter, preparation, and delivery, is covered. The booklet is

paperbound in convenient pocket size.

Small business advertising

PROFITABLE ADVERTISING FOR SMALL INDUSTRIAL GOODS PRODUCERS *by Raymond P. Wiggers. Small Business Management Series No. 18, U. S. Government Printing Office, Washington, D. C., 102 pages, 35 cents.*

"A serious misunderstanding in industry today is the belief that advertising is the sole responsibility of one man—advertising manager . . . Actually, the advertising function is also of direct concern to . . . management, production, sales, finance, control, and new product development."

The latest SBA booklet does an excellent job of showing why and how the advertising function should be tightly correlated with each of a company's other operating departments. Three opening chapters define advertising problems that are of first concern to top management. Seven chapters study the more specific problems of the advertising manager.

The main question

APPRAISING THE ECONOMICS OF ELECTRONIC COMPUTERS *by Frank Wallace. Controllership Foundation, Inc., 2 Park Avenue, New York, 106 pages, $4.*

Would your company profit by an electronic computer?

Most of the many books on automation have avoided exploring this question in any detail since it defies generalization and depends primarily on an individual company's needs. This book, however, provides excellent suggestions on how a company should approach the problem, as well as guides for determining whether a full-scale feasibility study would be worth while.

In covering the economics of automation, Mr. Wallace presents the essential technical facts of the field in a very simple, readable manner.

Profits from packaging

THE SELLING POWER OF PACKAGING *by Vernon L. Fladager. McGraw-Hill Book Co., 330 West 42nd Street, New York, 131 pages, $3.50.*

"I don't buy the package—what's inside is what counts."

The author is out to prove that the outside means plenty, and he's full of specific suggestions for making it mean more.

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PLANT LOCATION . . . *continued*

discovered that a community may measure up well in availability of primary supplies for manufacturing requirements but be unable to provide a wide enough range of other services, supplies, and supporting industries. Prominent examples of this were uncovered in metal-working and product assembly. Common troubles include lack of nearby facilities for forging, plating, heat treating, and so on. In many instances, it may be years before these gaps can be plugged. Meanwhile, the shortcomings impede the smooth flow of operations, and increase costs. Similarly, a number of concerns, including chemical manufacturers, report that it is necessary to carry excessive and costly inventories of spare parts to insure reliable operations simply because their localities lack well-stocked mill supply houses.

Utility costs and problems

More than 400 companies mentioned some type of problem with water, gas, power, or effluent disposal. Water problems were especially frequent. Engineers of one company using 8 million gallons of water quarterly computed charges of $967 prior to location. They were astounded to receive a quarterly bill of $1,580. They had not been informed of sewer assessment charges. A number of chemical companies that require water for cooling have found surprisingly high ground water temperatures in the Southwest. Two companies interviewed admitted that insufficient water pressure unexpectedly necessitated construction of expensive sprinkler tanks. At least a dozen plant engineers were dismayed to learn that they could not tap into the natural gas pipelines that passed their communities.

Underestimating taxes

Any number of executives have neglected to consider the impact of so-called "nuisance" expenses of doing business. One company treasurer revealed that moving from one state to another had meant an increase in the workmen's compensation rate of $2.47 for each $100 of payroll. Few companies, apparently, investigated state unemployment insurance rates, which range from 0 to 2.7 per cent of total payroll. The controller of a very large company admitted that his con-

cern had selected a state for an important plant employing 3,000 people partly because there was no state corporate income tax. He realized, too late, that personal property taxes, assessment on machinery, inventory, and goods in process, *exceeded* the corporate income tax in the state in which the company had operated.

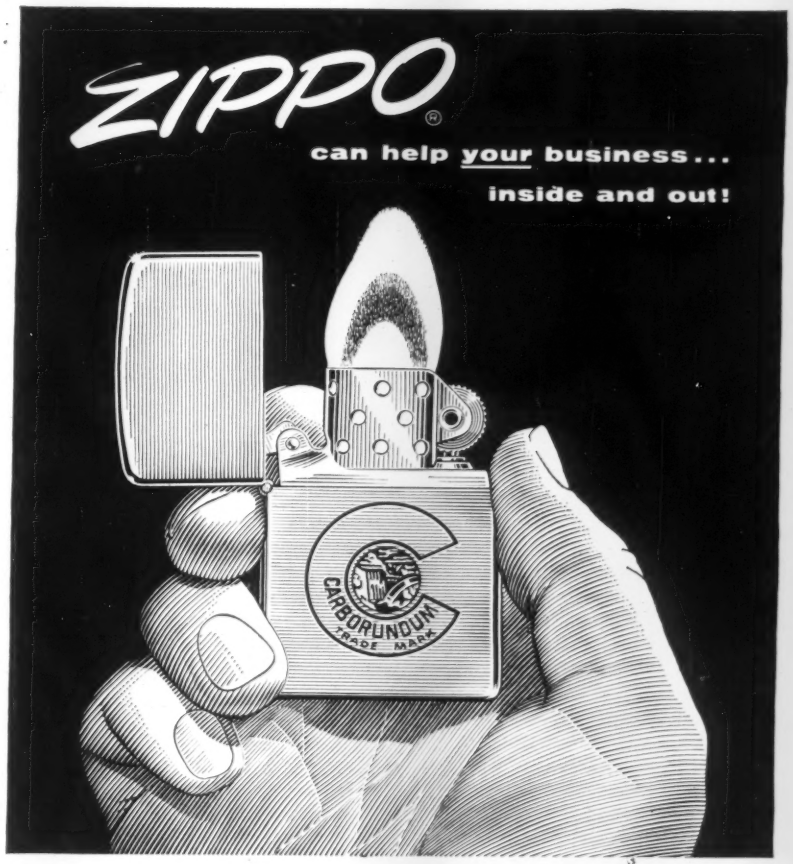
Cost relationships

Cost "input" factors vary with every company. For some, labor accounts for a relatively high proportion of final delivered-to-customer product costs. In others, assembly of raw materials, transportation costs to ultimate consumers, or cheap power and fuel are the determining factors. Observation of 10 to 12 per cent of new plant failures leads to the conclusion that executives responsible for these long-term decisions were *not fully aware of their own product and distribution cost relationships*. They failed to delineate the problem, emphasize the most important cost elements, and subordinate those with less effect.

Just one mistake may be too costly

In a period of such keen competition as the present, few manufacturers can afford to make mistakes. Just one point overlooked will often throw off the entire calculation of plant location. A few years ago, a major American company put up a new plant in an attractive community primarily because of the low local tax rate. It neglected to investigate the town's per capita indebtedness, which, in fact, was one of the highest in the country. Within two years after the new plant was built, the town was forced to revamp its entire tax system, and the company's local tax jumped from $18,000 to $54,000.

A meticulous analysis of the company's own future production and distribution needs is the first step toward successful plant location. Innumerable factors must be carefully weighed if a company is to avoid all possible pitfalls. These factors range from such tangibles as wage rates and fringe benefits, flood hazards, and availability of labor, to such intangibles as local attitudes, labor productivity, and work habits. All these and scores of other diverse points must be considered before a company can have a dependable dollars-and-cents breakdown of the potential delivered-to-customer cost of its product from a new plant.



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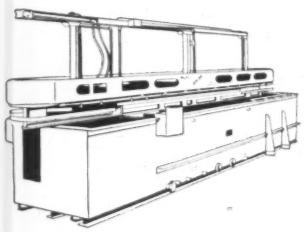
The New Note In Plating-UDYLITE Hi-C

The Udylite Hi-C Bright Nickel Process has set a new pitch in the plating of music stands at Krauth and Benninghofen of Hamilton, Ohio.

Krauth and Benninghofen, world's largest manufacturer of music stands, had been using the standard gray nickel finish until a year ago. The swing to Udylite's Hi-C Bright Nickel Process with a chrome overlay added sales appeal that forced production to step up its tempo to meet the growing demand—a 20% increase over the past year!

If you're looking for a way to improve your metal finishing operations—to add sales appeal to your products through brilliant color, and prolonged corrosion resistance—it will pay you to investigate Udylite Hi-C.

. . . whatever your product . . . whatever your metal finishing problem . . . it pays to consult Udylite.



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World's Largest Plating Supplier

ure among industrial executives in the Eastern half of the nation.

Once the door is open, Kavanagh is ready.

He tells his prospects they can count on these advantages in Michigan: plenty of water for industry and recreation; rail, highway, air and water transportation; an abundance of productive labor; large, growing consumer markets; dependable power and gas for industry. This is broken down in detail for each area in which the prospect may show an interest.

"We do not expect to sell any prospect in the first interview, but we do expect to get him interested. That's the main objective," says Kavanagh.

When an industrial executive starts casting about for a new plant site or facilities to expand his operations, he has an unlimited field to survey.

Kavanagh attempts to narrow that field to Michigan. During the interview the executive is invited to visit the state to see the possibilities first hand.

"If we can persuade him to visit our area, we have accomplished half our goal," Kavanagh explains. Once in the state, the prospect is conducted on a personal tour of all available industry sites in which he shows interest. Every effort is made to supply all information possible in advance in order to save time for the visitor.

Local Officials Take Over

If the prospect becomes interested in a particular area the state agents prepare the way for opening of negotiations. Local civic and industrial leaders are contacted. Once the local officials take over, Kavanagh and his men step out. From this point on it is a matter of standing by to offer advice if needed. It is a time of hopeful waiting to see if the prospect will "buy."

Keeping What They Have

Promoting new industry from outside is one facet of the job, but there is another phase just as important. The industrial agent must keep a constant watch for possible moves of existing industries within the state.

These industries, for various reasons, may plan a move to a new location. In this situation, lack of information at the right time could

result in a "move out," an unhappy term in the field of industrial development.

Using the same machinery, Kavanagh and other agents contact the prospective mover to discuss his needs. In many cases, the agents can supply a suitable site within the state and thus keep the prospect on home grounds.

This, in turn, creates the problem of what to do about the community which has lost an industry. Here, again, Kavanagh and other agents pick up the ball and start the search all over again.

Community Attitudes

Decision of an industry to locate in any area, of course, depends upon many factors. Not the least of these is the attitude of the community where a new plant site is proposed. Community resistance or complacency often halts an industrial prospect at the front door.

In this respect, Kavanagh has a great advantage over many of his competitors in other states. During the past 15 years hundreds of Michigan communities have organized their own development agencies. These groups coordinate their work with that of the state agents, offering every service possible to assist the executive who may be considering a new plant location.

Results

The measure of Michigan's success in this huge sales campaign is reflected in part by figures recently released by the U. S. Bureau of the Census. This report on manufacturing showed that Michigan had a net gain of 2,919 new manufacturing establishments in the period from 1947 to 1954. Only California had a larger gain.

Success or failure in these efforts may not be known for months or years. The role of the industrial agent is that of a middleman and adviser as well as salesman. He is always the man behind the scenes and seldom enters the spotlight when a "big deal" is finally announced.

While industries throughout the land wrestle each year for a bigger share of the market, Kavanagh and his agents battle to keep both the market and the combatants in Michigan. For him and for hundreds of other agents across the nation it is an exciting and challenging career.

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(Advertisement)

SPECIAL REPORTS ON FINISHING NON-FERROUS METALS

NUMBER III—Lustrous, Corrosion-Resistant Finishing with Chemical Polishing Iridite

WHAT IS IRIDITE®?

Briefly, Iridite is the tradename for a specialized line of chromate conversion finishes. They are generally applied by dip, some by brush or spray, at or near room temperature, with automatic equipment or manual finishing facilities. During application, a chemical reaction occurs that produces a thin (.00002" max.) gel-like, complex chromate film of a non-porous nature on the surface of the metal. This film is an integral part of the metal itself, thus cannot flake, chip or peel. No special equipment, exhaust systems or specially trained personnel are required.

Chromate conversion coatings are widely accepted throughout industry as an economical means of providing corrosion protection, a good base for paint and decorative finishes for non-ferrous metals. Certain of these coatings also possess chemical polishing abilities that have luster-producing, as well as corrosion-inhibiting, effects on zinc and cadmium plate, zinc die castings and copper alloys. However, continued developments in this field have been so rapid that many manufacturers may not be completely aware of the breadth of application of this type of finish. Hence, this discussion of the many ways in which this chemical polishing characteristic can be used in final finishing or pre-plating treatments to produce a lustrous appearance with distinct display and sales appeal and appreciable savings in cost. Report I on decorative, corrosion-resistant finishes and Report II on paint base corrosion-resistant finishes are available on request.

The degree of luster possible on a surface is a function of the degree to which the surface can be smoothed. Leveling to provide a smooth surface can be achieved by mechanical or chemical means, or a combination of these, depending upon the luster desired and the original condition of the metal. Chemical polishing effectively imparts luster otherwise difficult and costly to obtain. For this reason, it is often used to supplement or entirely replace mechanical polishing, depending upon the application and the original condition of the metal. Chemical polishing has the additional advantage of providing overall treatment of the submerged part. It reaches into even the deepest corners and recesses that are otherwise inaccessible. Certain of the Iridites are specifically designed to perform this chemical polishing operation. Also, they provide corrosion protection as do all Iridites, thus may be used as a final finish or a pre-plating polish.

If Iridite is to be used as a final finish, in contrast to pre-plating treatment, the chromate conversion coating generated is allowed to remain, providing good corrosion resistance. Color inherent in these Iridite films ranges from a yellow cast to yellow iridescent. These coatings may be used without further treatment where this color is acceptable and good corrosion resistance is desired. Further, these basic coatings can be tinted by dyeing. Among the dye tints available are shades of red, yellow, blue and green. If desirable, the basic coatings can also be modified by a bleach dip leaving a clear bright or blue iridescent finish. In all cases bleaching reduces corrosion resistance.

As examples of this type of final finishing, Iridites #4-73 and #4-75 (Cast-Zinc-Brite) make possible for the first time, lustrous chemical polishing of the as-cast surface of zinc die castings. Thus, in many cases, sizeable savings in finishing cost are realized by elimination of plating costs. This economical method can be used on tools, appliance parts, toy pistols, locks and many other small castings. Another example is the treatment of copper and brass parts, such as welding tips, to eliminate buffing and provide additional corrosion resistance. In many cases, handling costs are reduced appreciably by replacing piece-part handling with bulk processing. Still another example of the use of this chemical polishing and protective quality of Iridite is a simple system of zinc plate, Iridite and clear lacquer instead of more costly electroplated finishes. Typical of this type of lustrous finish are builders hardware and wire goods.

As a pre-plating treatment, in contrast to final finishes, Iridite can be used to chemically polish zinc die castings or copper prior to plating. In such cases, Iridite should be applied as an in-process step, so that the protective film is removed before the plating cycle. The savings in handling, material and labor costs are obvious. This process has made it practical to plate chrome directly over copper on steel, conserving nickel, yet producing a lustrous chrome finish. Used after stripping faulty plate in reprocessing zinc die castings, Iridite restores luster to the casting, thus making possible replating without blistering.

Other Iridite finishes are available to produce maximum corrosion resistance, a wide variety of decorative finishes and excellent bases for paint on all commercial forms of the more commonly used non-ferrous metals. As a final finish, appearance ranges from clear bright to olive drab and brown and many films can be bleached or dyed. As a paint base Iridite provides excellent initial and retentive paint adhesion and a self-healing property which protects bare metal if exposed by scratching. Iridites have low electrical resistance. Some can be soldered and welded. The Iridite film itself does not affect the dimensional stability of close tolerance parts.

Iridites are widely approved under both Armed Services and industrial specifications because of their top performance, low cost and savings of materials and equipment.

You can see then, that with the many factors to be considered, selection of the Iridite best suited to your product demands the services of a specialist. That's why Allied maintains a staff of competent Field Engineers—to help you select the Iridite to make your installation most efficient in improving the quality of your product. You'll find your Allied Field Engineer listed under "Plating Supplies" in your classified telephone book. Or, write direct and tell us your problem. Complete literature and data, as well as sample part processing, is available. Allied Research Products, Inc., 4004-06 East Monument Street, Baltimore 5, Maryland.

FILMS FOR MANAGEMENT

Recess time at a modern schoolhouse in Liberia.

American business abroad

COMPANIES conducting operations overseas are in an excellent position to sponsor films of unusual historical and human interest.

Firestone Tire and Rubber Company has come up with one such documentary on Liberia—the autonomous African republic founded in 1847 by liberated American slaves. Firestone's development of a rubber industry there—rubber is Liberia's main export—forms the bulk of *A Changing Liberia* (27½ minutes, color). But the story is personalized and detailed enough to give, in addition, a picture of a land and its people in a state of transition from a tribal culture toward that condition broadly referred to as "Westernization." In the case of Liberia, the film shows, the fusion of local and Western ways has been relatively successful.

Prints are available from Association Films, 347 Madison Ave., New York 17.

Egypt Reborn (20 minutes, color)

Ancient palace ruins at Luxor, an Egyptian city on the Nile River.

NOW—a fully prepared

SUPERVISOR TRAINING MEETING

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Title:

"Maintaining Discipline"

Here's a *complete package* developed by instruction specialists, and *guaranteed* to produce effective training meetings. Modern audio-visual techniques drive home important Human Relations lessons for lasting impression . . . and 10 minutes' organizing time is all you need! Proved in major companies the nation over. Effective in any type of business.

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SOUND RECORDING—a teacher that never tires, never omits, never forgets. Narration by Harlow Wilcox puts the stripfilm's message across clearly and convincingly.

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Effective Tools for Effective Management

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Westport, Conn.

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City.....State.....DR

illustrates how an American company can put a film to work in an area where Western interests have met with less welcome.

The sponsor, Sahara Petroleum Company, was formed by four American oil firms: Cities Service, Continental, Ohio Oil, and Richfield. On a U.S. Government grant, the four companies have been searching for oil deposits in an 85,000 square mile area in the western deserts of Egypt. The film was produced by John Sutherland in both English and Arabic versions to sell the Egyptian people and government officials on just what they stand to gain should oil be discovered.

One of the film's most successful qualities is its avoidance of blatant propaganda techniques. The appeal is frankly economic and factual, and no false promises are held out. By showing visually how much expense and effort the United States is investing in the oil search, the sponsors also hope to soften any possible future demands by Egypt in tax areas. Problems and progress of modern Egypt are tactfully depicted, as well as the traditional landmarks.

Six basic pointers for sales supervision

In their new film, *How to Up Sales by Better Sales Supervision,* the sales team of Borden and Busse provides the kind of basic supervisory advice that is too frequently ignored.

By lively enactment of selling situations and the aid of such visual gimmicks as ladders, balancing scales, and boiling kettles, the pair demonstrates these main points:

1. It is not enough to expect performance—"employees do what management inspects."

2. Salesmen need praise and appreciation for a job well done. These are often better incentives than money.

3. Remember the man inside the job. Treat him as an individual, not just as a salesman. Be concerned with his personal life.

4. When you criticize a salesman, give him two compliments (deserved) for every critical crack. Help him to become his own critic.

5. Always put yourself in the salesman's shoes. Don't ask why things haven't been done. Show him how they can be done.

6. Always maintain a ladder of advancement and training for your salesman.

The film is being distributed by United World Films, Inc., 1445 Park Ave., New York.

A stronger link between two continents

A fine example of a straight documentary—capitalizing on an event of

How not to start a salesman off on his first day: Tell him that you just don't have time today to show him the ropes—but you're sure there's *someone* around who'll be glad to.

Veteran moving company packers are switching to Bostitch stapling to seal breakable things more quickly, securely, economically.

Stapling beats the stuffing out of old-fashioned packing

For some time, packing experts wrapped all fragile household articles in newspaper and buried them in excelsior or shredded paper as shown in the background.

Then along came Sherman's Master Pack method, using flexible corrugated wraps and pads and the Bostitch P4-6 or P4-8 Stapling Plier. This provided movers everywhere with a new, safer, cleaner, more economical packing method. The flexible corrugated wraps are folded around the fragile articles and sealed quickly and securely with Bostitch staples.

Sealed articles fit neatly and safely into corrugated cartons and off they go. No messy packing material tracked all over the house or burrowing into carpets. No ink smudges. No more blind groping in barrels.

Packers say that this stapling method speeds the packing job 25% and drastically cuts clean-up time. Housewives are happier. Insurance claims are reduced.

This efficient tool is just one of 800 kinds of staplers that trim time and costs on thousands of fastening jobs in home, factory and office. They will be demonstrated to you by one of the 375 Bostitch Economy Men working out of 123 cities in the U. S. and Canada. He'll be glad to tell you honestly whether stapling can save you money.

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MARCH 1957

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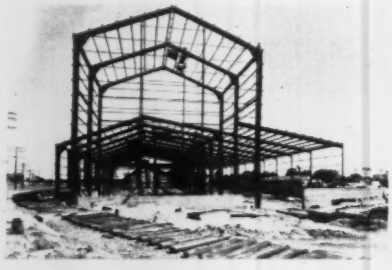

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Cabot Straits, Newfoundland, western terminal of the transatlantic telephone cable.

historical interest—is *Voice Beneath the Sea* (27 minutes, color).

Sponsored by the American Telephone and Telegraph Company, it's the story of the development of the two-way telephone cable across the Atlantic from Clarenville, Newfoundland, to Oban, Scotland. Scenes depicting strictly technical achievements—such as the development of internal cable amplifiers thin and flexible enough to withstand coiling—skilfully supplement straight action shots of the overseas crossing.

Prints are available from any of the Bell System film libraries. Produced by John Sutherland.

Group insurance: showing employees what they get

When a company invests in a group insurance program, there is always the danger that employees will take the benefits for granted, or even regard them as a kind of substitute for more immediately tangible benefits.

Realizing that this is a major obstacle to selling a company on the idea of group insurance, Connecticut General Life Insurance Company has sponsored *The Lifetime Look* (43 minutes, color).

The characters include an insurance salesman, a skeptical business manager, and a young executive who's planning to quit the company for a higher-salaried job. From these ingredients a rather fresh though straightforward plot background has been developed with case history flashbacks. Through these examples, Connecticut General has tried to provide most of the answers to the key employee question: "What will I get out of it?"

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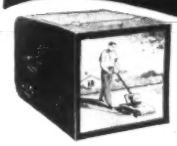

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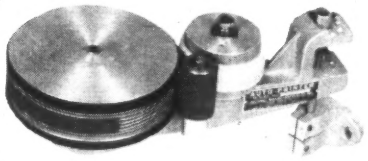

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National Association for Mental Health

The film's major purpose will be to sell group insurance; but it will be put to a secondary use: Once a company has adopted a group program, it can obtain a print of the film for internal use—to show its own employees what they're getting. Also, the film is so constructed that a company could personalize the opening and closing scenes—using its own executives as actors.

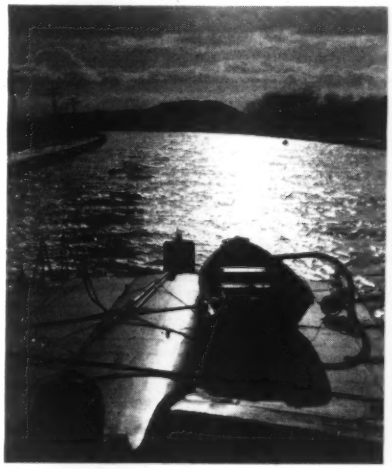
Aboard a towboat down the Illinois River

A fresh approach to a general public relations film is demonstrated in *Broad Land, Narrow Water* (20 minutes, color) sponsored by the Illinois Bell Telephone Company and produced by Wilding Productions, Inc.

It's a story of life aboard the towboats of the Illinois River—the link between the Great Lakes and the Mississippi. Narration is especially effective, tying together in a tone of wistful informality the excellent scenes of the land, the towns, and the people of the river.

Unfortunately, this is not the whole story, since Illinois Bell felt compelled to drag itself in somehow: The young narrator falls in love with the voice of a telephone operator in Chicago. When he arrives in the big city, he's taken on a tour of the Illinois Bell phone offices. Whom should he meet and marry but the girl with the beautiful voice? It's too bad that this kind of awkward commercialism mars an otherwise excellent film.

—G. A.



Full moon on the Illinois River—scene from Illinois Bell film *Broad Land, Narrow Water.*

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A pair of 1500 lb. capacity Walkie-Worklifters with 108" lift stacking pallets at Minneapolis Honeywell Regulator Co., Chicago Plant. There are thirty-nine other fork or platform models with lifts of 58" to 120" and capacities of 1000 lbs. to 2000 lbs. Priced from $1250.00 to $2500.00. Walkie-Worklifters can be used in narrow aisles and on light capacity elevators. Any employee can operate a Walkie-Worklifter without special training. *Write for details or see Sweets Plant Engineering File 1A/EC.* Economy Engineering Company, 4516 West Lake Street, Chicago 24, Illinois.

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wisdom comes with age

THE OLDER WE GROW, the more we know. This is not only true of people, but of companies, too . . . for a company is only as wise as the knowledge of its combined staff.

FOR 60 YEARS, PANAMA-BEAVER has matured steadily in its program to provide an "easier office-worker life." Since 1896, the company has learned to anticipate the needs of the commercial world before they arose. Among the first to recognize the important role of Vision-Engineered products, PANAMA-BEAVER's research department developed the easy-on-the-eyes Hypoint colored carbon papers plus Lustra Colorful Inked Typewriter Ribbons—especially created to harmonize with all paper stocks and letterheads. Another achievement—the Eyesaver, Parma Pearl and the NEW Ebony Unimasters (for spirit duplicating) with tinted jackets to avoid glare, relax the eyes, relieve harsh contrast and permit faster work.

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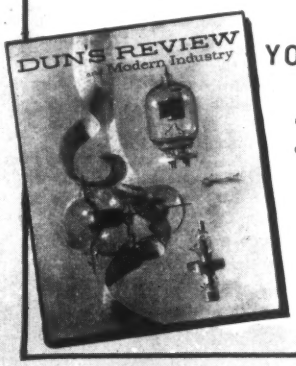

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THE MAGAZINE FOR MANAGEMENT MEN

A QUESTION OF MORALITY

TO MAINTAIN our social order at its present high level is expensive, but with a few reservations it is worth the investment. A civilized people expects much of its government, sometimes too much in special group and individual security. Still it is necessary to protect our borders, educate our citizens, and minister to the business and civic needs of the community. The historic method of acquiring funds for the operation of a government is the collection of taxes. The necessity of taxation is self-evident. The morality of tax philosophy is not so quickly apparent or justified. We have reason to question, not the principle, but the opportunism that motivates the actions of the tax legislators. The citizen who complains can share in the blame, too, for he asks the government to take over an increasing part of his social responsibilities.

Economic annals record many kinds of imposts. There have been taxes for tribute and taxes for reparations, which are ancient devices for exacting penalties against defeated or captive countries. There are various border taxes to plague the traveller and merchant—customs duties and tariffs, which are sometimes imposed for revenue, more often to favor domestic industry. There are excise and luxury taxes, which are levied for moral or punitive reasons. There are sales taxes, which are the easiest to legislate into force and the most difficult to remove.

All these, including Social Security and nuisance taxes, fade into insignificance before the national income tax, which began with a nibble on individual and corporate earnings in 1913. Having tasted blood, the income tax has become increasingly omnivorous during two wars and a depression until it threatens to hamper rather than help the administration of good government, social welfare, and national prosperity.

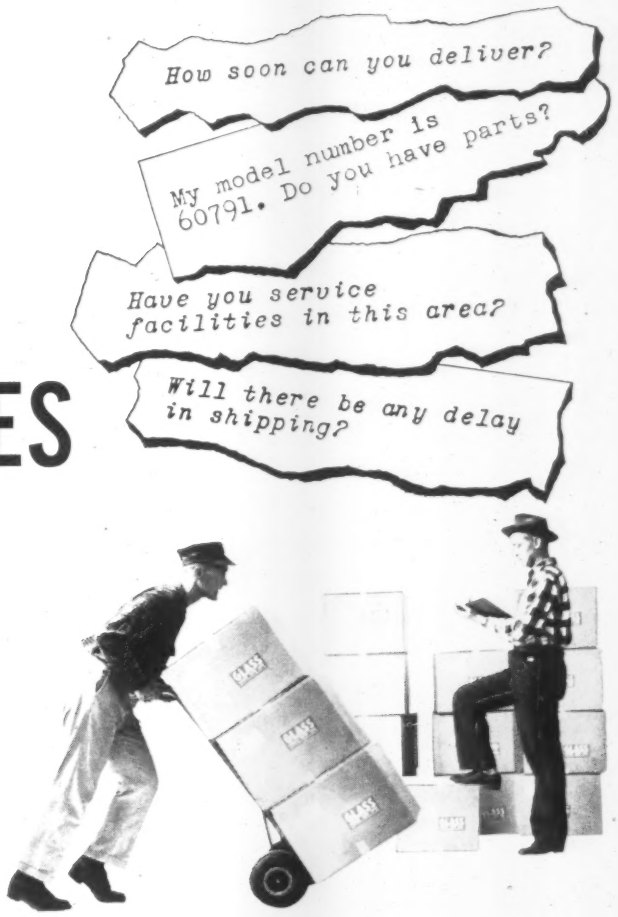
The national income tax has been imitated by many states, and by cities as well, until the tax collector represents one of the most numerous of our civil servants. The state income tax laws can be both opportunistic and unconscionable, especially by exacting taxes on taxes. The administration of complex regulations of national, state, and city taxes places a heavy clerical expense upon business and a tremendous strain on the mental skill and conscience of the individual. Designed to offset inflation, the income tax actually abets the spiral. The reasoning back of the law is discriminatory as well as punitive, and tends to inhibit or discourage creative talents and risk capital. There can be no morality or justice in a law that claims 90 per cent of a person's net income. In its effort to hobble a relatively small number of large incomes for a small percentage of the gross tax revenue, the tax handicaps men with the ability to create wealth, jobs, and prosperity for thousands of fellow citizens. It is high time for Congress, the several states, and larger cities to consider the unfair aspects of a tax philosophy that puts a stigma on earning power and encourages legal subterfuge or illegal evasion.

No reasonable person objects to paying his share in maintaining the military, liquidating a war debt, supporting and aiding the welfare of people. But the time is at hand to review all tax legislation, to eliminate its inequities, to codify regulations, to reduce the leakage, and to cut the costs of collection. It is no simple task, but the tax burden threatens the patience and endurance of all taxpayers regardless of bracket. From an ethical concept, the present structure of taxation is indefensible. An effort was made by Congress in 1954 in remodeling the income tax law, but the results were of minor benefit and the major faults remain. A fundamental change in concept is needed, before the weary goose that lays the golden egg may be forced to lay plain goose eggs for the high tax philosophers. It was Chief Justice Marshall who said, "The power to tax is the power to destroy," and it would be folly on our part to try to prove that Marshall was right.

The Editors

The total tax bill in this country comes to about $175,000 for every minute of the year. Putting it another way, most of us work from a half-day to two days or more out of the five every week for our three levels of government—Federal, state and local—the days of tax being determined by the size of our taxable income.
—V. JUDSON WYCKOFF IN THE NOVEMBER 1956 DR & MI

TURN INQUIRIES INTO ORDERS BY TELEPHONE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